

## Oral Presentation

### Synbiotic (*Lactobacillus pentosus* GSSK2 + Isomalto-oligosaccharides) Supplementation Ameliorates Gut Dysbiosis Together with Lipid and Glucose Metabolism Genes in High-Fat Diet-induced Metabolic Syndrome: An Experimental Study

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**Aim and background:** Metabolic syndrome is a lifestyle disease, where diet and gut microbiota play a prodigious role in its initiation and progression. Prophylactic bio-interventions employing probiotics and prebiotics offer an alternate nutritional approach towards attenuating its progression. Thus, the present study aimed to evaluate the protective efficacy of a novel synbiotic (*L. pentosus* GSSK2 + IMOs) in comparison to orlistat in a high-fat diet (HFD)-induced model of metabolic syndrome. **Materials and methods:** Fifty-four male SD rats were divided into nine groups, i.e., control (fed with standard pellet diet, 6% calories as fat), HFD (fed with HFD, 60% calories as fat), *L. pentosus* GSSK2, *L. pentosus* GSSK2 + HFD, IMOs, IMOs + HFD, synbiotic, synbiotic + HFD, and orlistat + HFD. Animals belonging to all the groups were administered with respective treatments for 12 weeks following which systemic adiposity, serum biochemical parameters, fecal lactic acid bacteria count, gut bacterial abundance, gene expression, and histological alterations in liver, adipose tissue, and colon were studied. **Results:** It was observed that supplementation of synbiotic for 12 weeks to SD rats fed with HFD, ameliorated the anthropometric parameters, visceral fat deposition, increased lactic acid bacteria count, lipid excretion in feces and Bacteroidetes to Firmicutes ratio, the elevated population of *Lactobacillus* spp., *Akkermansia* spp., *Faecalibacterium* spp., *Roseburia* spp., and reduced the Enterobacteriaceae. Additionally, synbiotic administration to HFD animals exhibited improved glucose tolerance, lipid biomarkers and alleviated oxidative stress, serum lipopolysaccharides, modulated the inflammatory, lipid, and glucose metabolism genes along with restored histomorphology of liver, adipose tissue, and colon compared with HFD animals. **Conclusion:** It is proposed that such novel synbiotic intervention may be employed for combating the growing incidence of metabolic syndrome that could be considered as a promising prophylactic live bacteriotherapy for maintaining immune-metabolic homeostasis.

**Keywords:** High-fat diet, Metabolic syndrome, Probiotics, Synbiotic.

## Oral Presentation

### Gut Microbiota, Functional Metabolism, and Network Analysis in Decompensated Cirrhosis Patients with and without Infections

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**Aim and background:** Cirrhosis is associated with an altered immune response that potentially allows for intestinal dysbiosis.

Variations in bacterial diversity and functional metabolism within the gut microbiota (GM) in decompensated cirrhosis (DC) patients with sepsis remain unknown. **Materials and methods:** Fecal 16-srRNA sequencing [ $N = 51$ , infection (iDC)–“27/no infection (niDC)” 24] collected at admission conducted. Bacterial diversity, significant taxa, functional metabolic profiling, and network analyzes were performed between two groups. **Results:** Males predominated; spontaneous bacterial peritonitis (SBP) was the commonest (29.6%). A significantly higher proportion in the iDC group had two infection episodes in the preceding 3 months. Rifaximin use between groups was not significant. A significantly higher proportion in iDC died during the same admission but not 6-month follow-up. Pathogenic bacterial genera in conditions of immune-exhaustion (*Moraxella*, *Neisseria*, *Lautropia*) predominated in iDC, whereas anti-inflammatory, anti-oxidant, and antimicrobial peptide synthetic metabolic-pathways (selenocompound, cysteine/methionine metabolism, streptomycin biosynthesis) were significant in niDC. *Eggerthella* (overexpressed in piperacillin-tazobactam use) was significant in bacteremic patients. Significant representation by sulfur-metabolizing gammaproteobacteria, gut expansion of oral-predominant pathogens, and upregulation of pentose-phosphate-pathway notable in IL-6 >1,000. *Megamonas* was associated with same-admission survival; *Kingella/Neisseria* with death on follow-up. Network analysis revealed significantly varying topology between iDC and niDC and changing core influencer taxa with repeated infections [0: Erysipelotrichaceae (immunogenic) 2: Ruminococcaceae (endotoxemia, antimicrobial synthesis)]. **Conclusion:** Alterations in gut microbiota are associated with infections in patients with DC. Identifying beneficial strains and metabolites that reduce gut-derived inflammation/immune exhaustion as an add-on to the standard of care may help improve clinical outcomes in infected DC.

**Keywords:** Cirrhosis, Gut microbiota, Sepsis.

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## Oral Presentation

### Systematic Review and Meta-analysis: Efficacy of Vancomycin Taper and Pulse Regimens in *Clostridioides difficile* Infection

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**Aim and background:** Treatment guidelines for *Clostridioides difficile* infection (CDI) suggest using extended vancomycin regimens for recurrent CDI based on small studies. We performed a systematic review and meta-analysis of studies treating CDI with vancomycin taper, pulse, or taper-pulse regimens. **Materials and methods:** We searched Medline, Embase, Cochrane, and Scopus from inception through October 9, 2020. Vancomycin taper was defined as a regimen with reduced dosing over time and pulse was a regimen

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less frequent than daily. Studies assessing resolution rates for vancomycin taper and/or pulse were included. Meta-analyses for resolution rates were performed using weighted proportion ratios (WPR). **Results:** Ten studies (two open-label randomized clinical trials, eight observational) with 675 patients treated with the vancomycin regimens for one CDI recurrence were included. Dosing regimens varied, most started with vancomycin 500 mg/day in divided doses tapered over time, and pulse regimens were spaced out to every other or every 3rd day. Resolution rates were 83% (212/266, 95% CI 69–94%,  $I^2 = 85%$ ) for taper-pulse regimens, 68% (264/383, 95% CI 57–78%,  $I^2 = 72%$ ) for taper alone, and 54% (11/26 95% CI 0–100%,  $I^2 = 86%$ ) for pulse alone regimens. Taper-pulse was superior to taper alone (WPR 83 vs 68%,  $p < 0.0001$ ) and pulse alone (WPR 83 vs 54%,  $p < 0.0004$ ). There was no significant difference between taper alone or pulse alone (WPR 68 vs 54%,  $p = 0.1$ ). **Conclusion:** Vancomycin taper-pulse seems superior to pulse alone or taper alone for recurrent CDI. Randomized controlled studies comparing vancomycin taper-pulse regimens to fidaxomicin and microbiome restoration are needed.

**Keywords:** *Clostridioides difficile*, Pulse, Recurrence, Taper, Vancomycin.

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### Oral Presentation

#### Preliminary Work on the Gut Microbiota of Parkinson's Disease from Coastal Karnataka, India

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DOI: 10.5005/jp-journals-10068-3034A.4

**Aim and background:** Gut dysbiosis has been associated with the pathophysiology of Parkinson's disease (PD). Constipation is attributed to be one of the prodromal non-motor gastrointestinal symptoms in PD, which is under-reported. The study aims to analyze the gut microbiota in coastal south Indian PD subjects and validate decreased bowel movements and defecatory dysfunction. **Materials and methods:** Demographic and clinical details of the subjects were collected. Bacterial 16S rRNA sequencing was performed on faecal samples of five PD cases and five healthy controls HC on Illumina MiSeq platform, specific to the V3–V4 region amplified by PCR, and data were analyzed using the QIIME workflow. The non-Motor Rating Scale (MDS-NMS) was utilized to score the frequency and severity of the non-motor symptoms. In addition, scoring of the Rome IV Bowel Disorders questionnaires was employed to diagnose functional constipation. **Results:** The diversity of gut microbiota was analyzed at the family level between the cases and controls, as depicted. A higher abundance of family Clostridiaceae, Enterobacteriaceae, Coriobacteriaceae, Veillonellaceae, and Flavobacteriaceae were noted in PD. In contrast, Lachnospiraceae, Bacteroidaceae,

Erysipelotrichaceae, Ruminococcaceae, and Streptococcaceae were lower in abundance among PD than HC. Whereas Lactobacillaceae and Prevotellaceae were indifferent between the groups. We observed that only 20% of the PD cases reported constipation by MDS-NMS, whereas 60% of the PD cases were diagnosed with functional constipation by Rome IV Criteria. **Conclusion:** This pilot work explicitly demonstrates gut bacterial dysbiosis in PD cases and suggests using Rome IV Criteria for diagnosing constipation and treating the subjects accordingly.

**Keywords:** 16S rRNA sequence, Dysbiosis, Gut microbiota, Parkinson's disease, Stool.

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### Oral Presentation

#### Comparison of Short Course vs Conventional Antimicrobial Duration in Complicated Intra-abdominal Infections: A Randomized Controlled Trial

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DOI: 10.5005/jp-journals-10068-3034A.5

**Aim and background:** Studies have shown the feasibility of short course antimicrobials in complicated intra-abdominal infection (CIAI) following source control procedure. This study was carried out to compare postoperative complication rates between short and conventional course antibiotic therapy. **Materials and methods:** This was a single-center, open-labeled randomized control trial in which patients with complicated intra-abdominal infections were included. Patients who were hemodynamically unstable, pregnant and who had non-perforate, non-gangrenous appendicitis or cholecystitis, infected necrotizing pancreatitis were excluded. Primary endpoints were SSI, recurrent intra-abdominal infection (IAI), and mortality. The secondary outcomes were the time to the occurrence of composite primary outcomes, duration of antimicrobial therapy, the length of hospital stays, and the presence of extra-abdominal infections. **Results:** A total of 140 patients were included in the study. The demographic and clinicopathological details were comparable between the groups. There was no difference in SSI (37 vs 35.6%) and recurrent IAI (5.7 vs 2.8%;  $p = 0.76$ ) and no mortality was observed in either group. The composite primary outcome (37 vs 35.7%) was also similar between the two groups. Secondary outcomes like the duration of antimicrobial therapy (5 vs 8 days;  $p < 0.001$ ) and length of hospitalization (5 vs 7 days;  $p = 0.014$ ) were significant. Time to the occurrence of SSI and recurrent IAI, the incidence of extra-abdominal infection was comparable. **Conclusion:** Short-course antimicrobial therapy for 5 days following source control procedure (SCP) for CIAI had similar outcomes when compared with the conventional duration of antimicrobials indicating similar efficacy.

**Keywords:** Antibiotics, Complicated intra-abdominal infection (CIAI), Intra-abdominal infection (IAI), Source control procedure (SCP), Surgical site infections (SSI).

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## Poster of Distinction

### Does Over-colonization of *Klebsiella pneumoniae* in the Gut Cause Obesity?

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**Aim and background:** The new term "Infectoobesity" is emerging as microbes have been implicated in weight gain. Few of the species of the Enterobacteriaceae family have been implicated in obesity, e.g., *Klebsiella pneumoniae* (*K. pneumoniae*). We have tried to explore the effect of early colonization of the *K. pneumoniae* and subsequent eradication through bacteriophage in rat pups on weight gain and loss. **Materials and methods:** Of the three groups, the group I having five pups were kept on a sterile diet. The five pups each belonging to groups II and III were fed with *K. pneumoniae*. At the end of the 10th week, the pups belonging to group III were fed with *K. pneumoniae* specific phages for 8 weeks. At the end of the 30th week, group III was again fed with the bacterium, while group II received bacteriophage therapy for the next 8 weeks. The weight of each of the pups was noted every Monday of the week till the study was completed. **Results:** There was significantly higher weight gain ( $p < 0.001$ ) in the rats colonized by the bacterium (50% higher) than those without the colonization by *K. pneumoniae* by the end of the 7th week. When the bacterium was eradicated using a specific bacteriophage cocktail orally, the mean weight decreased and became almost similar to the control rats' mean weight in about 12 weeks. **Conclusion:** The bacterial species *K. pneumoniae*, which is a saprophyte with voracious metabolic activities, may lead to more harvesting of energy from the food and in turn obesity.

**Keywords:** Citrate utilization, Fatty liver disease, *Klebsiella pneumoniae*, Obesity, SGPT.

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## Poster of Distinction

### Colonization and Carriage of Antimicrobial-resistant Enterobacteriaceae in the Gut of Healthy Infants during the First Year of Life: A Study from Rural Region of Coastal Karnataka, Southern India

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**Aim and background:** The intestinal microbiota is a reservoir of antimicrobial resistance. The colonization and harboring of drug-resistant strains of Enterobacteriaceae in the gut can be a

threat to the host, in addition to serving as a potential source of transmission to other individuals and the environment. This study aims to investigate the prevalence of antimicrobial-resistant strains of members of the family Enterobacteriaceae in the gut of healthy infants during various time points in the first year of their life. **Materials and methods:** Stool samples were collected from fourteen healthy infants at four time points viz., at birth, 6 weeks, 14 weeks, and 36 weeks. Bacteria were isolated by routine microbiology lab procedures followed by culture identification using biochemical tests and antimicrobial susceptibility tests using Kirby–Bauer's disk diffusion technique. **Results:** Out of the 14 infants, 6 infants were found to harbor *Escherichia coli* (46%), *Klebsiella pneumoniae* (38.5%), or *Enterobacter* spp. (15.4%) at any given time point. *K. pneumoniae* and *Enterobacter* spp. were higher at birth (33%). They were dominated over by *E. coli* at 6 weeks (83%), 14 weeks (83%), and 36 weeks (100%). All isolates showed the highest resistance to ampicillin at birth (67%), at 6 weeks (73%), at 14 weeks (46%), and 36 weeks (18%); followed by ciprofloxacin (17, 18, 15, and 9%) and nalidixic acid (17, 9, 23, and 18%). At 6 weeks, only one isolate of *E. coli* was resistant to 3rd and 4th generation cephalosporins. **Conclusion:** These provisional results of this ongoing study suggest that commensal Enterobacteriaceae colonizing the infant's gut can be resistant to commonly used antibiotics. This can be an evolving threat of antimicrobial resistance since these organisms can get selected and enriched under antibiotic pressure and lurk in the intestinal environment with the potential to change into a pathogen or transfer the resistance to an incoming pathogen.

**Keywords:** Antimicrobial resistance, Commensal enterobacteriaceae, Intestinal carriage, Healthy infants.

## Poster of Distinction

### Emergence, Clinical Diversity, and Spectrum of Non-typhoidal Salmonellae in Mangaluru, Coastal Karnataka: A 10 Years' Experience

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DOI: 10.5005/jp-journals-10068-3034A.8

**Aim and background:** Non-typhoidal salmonellae (NTS) is emerging as a zoonotic disease across the globe causing gastroenteritis, invasive infections, and outbreaks. The laboratory-confirmed cases may be underestimated as all the isolates are not serotyped. The distribution of serovars is likely to vary based on geographical, epidemiological, and demographic factors. The present report analyzes the spectrum of NTS isolated in our institute with seroprofiling, for a period of 10 years. **Materials and methods:** Fresh faecal samples from patients with acute gastroenteritis were processed according to the standard protocol. Demographic details of the patients and underlying diseases were collected from the medical records. All NTS strains were sent for serotyping. **Results:** Of the 3,833 faecal samples from patients, 145 NTS were isolated. Eight isolates of NTS were recovered from bacteremia. There were three rare MDR isolates—*S. infantis*, *S. kentucky*, and *S. agona*. The most common NTS species was *S. typhimurium*, followed by *S. weltevreden* and *S. oslo*. Eight NTS isolates from blood included two strains each of *S. oslo*, and *S. enteritidis* and one strain each of *S. typhimurium*, *S. dublin*, *S. choleraesuis*, and *S. hadar*. **Conclusion:** The report emphasizes the spectrum of NTS in the Coastal Karnataka region. As NTS strains are morphologically and biochemically similar,

## ABSTRACTS

all strains have to be subjected to serotyping for proper identification. The increased prevalence of NTS maybe because Mangaluru is being a coastal area and most of the population has a non-vegetarian palate. The emergence of MDR-NTS appears to be an alarming signal, to be dealt with caution.

**Keywords:** Non-typhoidal salmonellae–Gastroenteritis, Seroprofiling.

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### Poster of Distinction

#### Role of Change in the Levels of Inflammatory Markers Post Drainage in Predicting Outcome in Acute Cholangitis

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DOI: 10.5005/jp-journals-10068-3034A.9

**Background:** Acute cholangitis is a gastrointestinal emergency associated with significant mortality. The role of change in the levels of inflammatory markers post drainage in predicting outcome in acute cholangitis is uncertain. **Aim and objective:** To evaluate the predictive value of changes in CRP and procalcitonin levels after biliary drainage in relation to outcomes (survival or mortality) at 1 month. **Materials and methods:** A prospective observational study of consecutive adults presenting with acute cholangitis was performed. The patients underwent biliary drainage in addition to antibiotics for treatment. At admission and at 48 hours post drainage, procalcitonin and CRP were sent. **Results:** Seventy-two consecutive patients of acute cholangitis, median age: 55 years (43–62 years) and 42 (58.33%) females, were included. The change in serum procalcitonin and CRP although significant, had no bearing on the outcome at 1 month. History of fever, diabetes mellitus, and WBC count were significantly associated with bile or blood culture growth. Altered sensorium and INR were independently associated with mortality at 1 month. The 30-day mortality prediction of procalcitonin at admission, measured by ROC analysis, resulted in an area under the curve (AUC) of 0.697 (95% CI 0.545–0.849). A procalcitonin cut-off of 0.57 ng/mL would have a sensitivity and specificity of 80 and 60%, respectively, to predict mortality. **Conclusion:** Procalcitonin is a promising marker for predicting outcomes of acute cholangitis. Change in serum procalcitonin and CRP levels at 48 hours post drainage although significant, had no impact on the outcome of acute cholangitis.

### Poster of Distinction

#### Serological Detection of Anti *Echinococcus* IgG Antibodies and Microscopic Detection of *Echinococcus* spp. as an Aid in Diagnosis of Hydatid Disease: A Retrospective Study

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DOI: 10.5005/jp-journals-10068-3034A.10

**Aim and background:** The neglected tropical disease, hydatidosis (etiological agent belonging to genus *Echinococcus*), is prevalent in various parts of India especially Andhra Pradesh and Tamil Nadu. Though the primary organ of involvement is the liver but

hematogenous dissemination can lead to the development of cysts in other sites also like the lung, spleen, kidney, and brain. Surgery in the form of PAIR (percutaneous aspiration, injection of scolicalid agent, and respiration) therapy along with albendazole treatment remains the mainstay of management. **Materials and methods:** The present study was conducted retrospectively at the Postgraduate Institute of Medical Education and Research, Chandigarh. Data from cases of suspected hydatid cysts were analyzed over a period of 1 year from June 2020 to May 2021. A total of 277 patients (both outpatient and admitted in wards) were screened for the presence of anti-*Echinococcus* IgG antibodies in serum samples by indirect enzyme-linked immunosorbent assay (ELISA). Direct microscopic examination of the wet mount of hepatic/pulmonary aspirate was done in 112 patients with clinical suspicion of parasitic infection (30 samples were investigated specifically for detection of hydatid cyst). **Results:** In 42/277 (...15%) cases of suspected hydatid cyst, anti-*Echinococcus* IgG antibodies were detected. Hooklets or scolices were seen in direct microscopic examination of hepatic/pulmonary aspirate in 9/112 cases...8% cases. **Conclusion:** With the advent of immunodiagnostic tests, it has become easy for clinicians especially gastroenterologists to specifically diagnose this potentially serious condition after raising a clinical suspicion based on history and physical examination.

**Keywords:** *Echinococcus*, Hydatid cyst.

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### E Poster Exhibition

#### Complications of Helminthic Infestation with Illustration of a Rare Case of Intestinal Obstruction and Gut Gangrene Secondary to Ascariasis

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DOI: 10.5005/jp-journals-10068-3034A.11

**Aim and background:** *Ascaris lumbricoides* is one of the largest and commonest helminths that infect humans. The mode of infection is oral ingestion of *Ascaris* eggs with contaminated food. The eggs release larvae in the intestine from where they go for the pulmonary migration phase. From thence, they further reach the small intestine where they achieve sexual maturity. A large number of worms must be present in the intestine to cause obstruction. However, this large number has not been defined in the available literature. **Case description:** A 19-year-old unmarried lady presented to the surgical emergency with 0–3 days history of pain abdomen, distension, obstipation and vomiting, history of similar episodes, pica and passage of worms in stool also present. On examination: thinly built and poorly nourished, pallor present, perabdominal examination: distension, generalized peritonitis, and bowel sounds were absent. Intraoperative findings: ascites, small bowel gangrene, ball of worms stuck at appointing 40 cm proximal to the ileocaecal junction. **Discussion:** Ascariasis though cosmopolitan in distribution, is endemic and a major health problem in tropical countries. The condition responds well to conservative management with anti-helminthic agents as albendazole/mebendazole. Intestinal obstruction has been reported as the commonest surgical complication of ascariasis. Owing to its narrow diameter, the terminal ileum is the common site of obstruction through the jejunum that hosts most of the *Ascaris*. **Conclusion:** Ascariasis is a common medical condition with the still rare occurrence of complications.

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## E Poster Exhibition

### Clinico-endoscopic Profile and Outcome of Cytomegalovirus Colitis in Inflammatory Bowel Disease Patients at Tertiary Centre in North India: A Retrospective Study

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DOI: 10.5005/jp-journals-10068-3034A.12

**Aim and background:** Cytomegalovirus (CMV) colitis manifesting as a gastrointestinal tissue-invasive disease is frequently seen in immunocompromised and IBD patients. **Materials and methods:** A retrospective study was conducted of CMV colitis patients with IBD for 3 years. CMV colitis was diagnosed by positive inclusion bodies on H&E staining or by Immunohistochemistry (IHC) in colonic tissue biopsy. **Results:** Twenty-seven patients were studied with a median age of 32 (15–62) years and a median IBD duration of 22 (2–36) months. There were 23 (85%) patients of UC and 4 (15%) patients of CD. Ten patients were on immunomodulators. Predominant symptoms included bloody diarrhea (93%), abdominal pain (55%), low-grade fever (20%), and anaemia (70%). The endoscopic evaluation mainly noted deep punched-out ulcerations (48%), longitudinal and geographic ulcerations (33%), and diffuse mucosal hemorrhage with superficial erosions (14%). Histopathology demonstrated inclusion bodies in 55% of patients and the remaining were diagnosed by immunohistochemistry. Seven (25%) patients responded to intravenous steroids whereas intravenous ganciclovir followed by oral valganciclovir was required in 20/27 (75%) patients. Clinical response was noted in 14/20 (70%) patients whereas colectomy was required in 3/27 (11%) and 3/27 (11%) died due to disease complications. **Conclusion:** CMV colitis complicating IBD is independently associated with refractory disease, immunomodulator use, and age over 30. H&E “owl eye” inclusions are specific but less sensitive whereas IHC remains the gold standard for diagnosis. Deep punched-out ulcerations hint towards the diagnosis. Antiviral therapy significantly improves outcomes but life-threatening complications may develop.

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## E Poster Exhibition

### Serum Levels of *Helicobacter pylori* Antibodies, Pepsinogen, Gastrin in Dyspepsia Patients to Diagnose Gastric Mucosa Status

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DOI: 10.5005/jp-journals-10068-3034A.13

**Background:** Globally, *Helicobacter pylori* (*H. pylori*) prevalence is 20–30% and in India 30–49%. *H. pylori* Ab diagnoses the presence of *H. pylori* infection. Levels of serum pepsinogen I (PGI) and

pepsinogen II (PGII) indicate corpus and/or antrum mucosal atrophy, respectively. While levels of gastrin 17b (G17b) indicate hypo or hyperchlorhydria. **Aim and objective:** To estimate serum levels of *H. pylori* antibodies, pepsinogen, gastrin in dyspepsia patients of tertiary care Centre of Uttarakhand. **Materials and methods:** A cross-sectional study was conducted at AllMS Rishikesh in which 137 patients with dyspepsia were enrolled. Fasting serum samples were taken to estimate levels of *H. pylori* antibodies, pepsinogen I and II, G17b using Bio-hit ELISA kit. Percentage of normal, high, and low levels of each parameter was calculated. **Results:** Out of 137 patients, 76 were males and 61 females with a mean  $\pm$  SD of age  $38.02 \pm 13.27$  years. Levels of pepsinogen I were normal in 86.3% of patients and high in 13.86% while levels of pepsinogen II were normal in 68.8% and high in 31.2%. PG I/II ratio was normal in all patients and levels of gastrin 17b normal in 44%, high in 28.8%, and low in 35.2%. Levels of *H. pylori* antibodies were normal in 65.6% and high in 34.4%. Based on abnormal or normal levels of all parameters, normal stomach mucosa was found in 32.11%, active *H. pylori* infection not treated in 21.16%, successfully eradicated in 5.14%, eradication failed in 1.45 and 20.43% of patients had low acid output, 16.05% of patients showed mucosa with high acid output while 3.64% with atrophic gastritis of the antrum. **Conclusion:** This study shows that levels of *H. pylori* antibodies, pepsinogens, and gastrin 17b in plasma can diagnose the status of gastric mucosa in dyspeptic patients.

**Keywords:** Dyspepsia, Gastrin, *Helicobacter pylori* Ab, Pepsinogen.

## E Poster Exhibition

### *Clostridium* and Other Anaerobic Bacteria in Milk and Milk Products

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**Aim and background:** Dairy products are nutrient-rich and are vital in the diet. Pasteurization, by the destruction of most pathogenic microbes, renders food safe for consumption, but problems persist due to interference by pathogenic sporulating anaerobes like *Clostridium* spp. that render food unsafe by spoilage or decreasing shelf life. *Clostridium* is a gram-positive, strictly anaerobic genus that includes several pathogens, causing botulism, tetanus, and diarrhea. **Materials and methods:** The study was undertaken at a Public Health Institute to ascertain the prevalence of anaerobic bacteria in milk and milk products, with aim of isolating and identifying them from raw and pasteurized packaged milk, cottage cheese, and curd (sweet and sour). Anaerobic culture was done by the GasPak method. Isolates were identified by phenotypic and biochemical characteristics. **Results and conclusion:** The contamination rate was 49.1% among 100 samples tested. The isolated anaerobes were mostly non-pathogenic or commensals of human and animal gut. Moreover, some pathogenic anaerobes were found like *Clostridium* spp. that cause diseases like botulism and can lead to other infections of public health concern. Mostly they were *Clostridium perfringens*. Most of the retail shops were found to operate safely and hygienically; only a few local vendors were unhygienic and without proper cleanliness. The sellers

## ABSTRACTS

whose samples were positive were informed individually about contamination observed and its consequences. **Discussion:** The evaluation of these samples for the presence of anaerobes holds importance as milk and milk products are widely consumed in India and draw up attention towards food-borne diseases as they can be of huge public health concern.

**Keywords:** Anaerobically cultured, *Clostridium perfringens*, Milk and milk products.

**File:** <https://gisicon21.org/videos/1624694431.docx>

### E Poster Exhibition

#### Duodenal Tuberculosis Presenting as Distal Duodenal Obstruction: A Case Report

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DOI: 10.5005/jp-journals-10068-3034A.15

**Aim and background:** Gastrointestinal tuberculosis represents 0.02–5% of abdominal tuberculosis. Duodenal tuberculosis represents 2–5% of gastrointestinal tuberculosis and is rare in immunocompetent individuals. The coexistence of pulmonary involvement is seen in 15–25% of cases. **Case description:** A 35-year-old woman presented with recurrent vomiting at times bilious with associated epigastric pain of 3 months duration with progressive weight loss and had no constitutional symptoms. Upper gastrointestinal endoscopy revealed ulceroproliferative lesion in the second part of the duodenum with luminal narrowing and CT showed thickening in the second and third part of the duodenum. The suspected malignant lesion turned out to be duodenal tuberculosis on histopathological examination with lymphocytic infiltration in lamina propria with multiple granulomas with epithelioid histiocytes. Pulmonary screening showed air space opacities with a tree in bud appearance suggestive of tuberculosis. Colonoscopy showed ulceronodular lesion in caecum with patulous IC valve. The patient was started on category 1 ATT, she has completed 5 months of treatment, has been symptomatically better, and is on close follow-up. Coexistence of pulmonary lesion, endemic nature of the disease, and associated lower GI endoscopic findings more favored diagnosis of tuberculosis in unusual location as duodenum and its exclusion from malignancy can be done by close follow-up and assessing response to ATT. The case is reported for its rarity of presentation in immunocompetent individuals and its mimicking to the malignant lesion. **Conclusion:** Duodenal tuberculosis is a rare entity and diagnosis is aided by coexistent pulmonary or colonic involvement. Close follow-up and response to ATT are essential.

**File:** <https://gisicon21.org/videos/1624890046.jpg>

### E Poster Exhibition

#### Surgical Site Infection Following Abdominal Surgery: A Prospective Study

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DOI: 10.5005/jp-journals-10068-3034A.16

**Aim and background:** Surgical site infection (SSI) is one of the most common complications of abdominal surgery and is associated with

substantial discomfort, morbidity, and cost. SSI rate of 15 to 25% has been reported in abdominal surgeries. This study aimed to describe the incidence, bacteriology, and risk factors associated with SSI in patients undergoing abdominal surgery. **Materials and methods:** This prospective study was conducted for a period of 1 year from January 2019 to December 2019 in the Department of Microbiology, DMCH, and Ludhiana. Postoperative patients of abdominal surgeries with SSI were included in the study. Patients undergoing liver transplantation were excluded. Wound exudate samples from suspected SSI patients were collected and processed as per standard protocol. Characterization of bacterial isolates was done. **Results:** Out of a total of 2,509 patients of abdominal surgeries, 75 patients had surgical site infection with an overall rate of 2.98%. Out of 75 patients, the majority (66.7%) were males. The majority of the wounds were contaminated (65%), followed by clean-contaminated and dirty (16% each). Common risk factors were obesity, followed by advanced age, immunosuppression, and concurrent infection at other sites. Gram-negative isolates were predominant (89.3%) when compared with Gram-positive (10.6%). *Escherichia coli* was the commonest isolate (45.3%) followed by *Klebsiella* spp. (20%), *Acinetobacter* spp. (10.6%), *Pseudomonas* spp., and *S. aureus* (8% each). 53% of *E. coli* and *Klebsiella* isolates were ESBL producers. All the *S. aureus* isolates were MRSA. MDR was seen in the majority of the *E. coli* isolates (58.8%), and XDR in *Klebsiella* isolates (73.3%). **Conclusion:** Obesity and advanced age were common risk factors, the majority of wounds were contaminated and multidrug-resistant gram-negative bacteria were predominant in SSI. The bacteriological profile of surgical site infections will help formulate more effective prevention and treatment strategies.

**Keywords:** Gram-negative, Gram-positive, MDR, Surgical site infection, XDR.

### E Poster Exhibition

#### Understanding the Influence of Breastfeeding and Complementary Feeding in Gastrointestinal Health and Antibiotic Usage in Rural Areas

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DOI: 10.5005/jp-journals-10068-3034A.17

**Aim and background:** Exclusive breastfeeding, appropriate complementary feeding, and antibiotic exposure are modifiable factors that may impact the diversity and functional capacity of the gut microbiome. This research aimed to investigate the associations of type of breastfeeding and complementary feeding with gastrointestinal infections and antibiotic exposure in infancy in a rural setting. **Materials and methods:** A prospective cohort (pilot) study was conducted with a sample size of 200 mothers of 6–12 months old healthy infants in Udupi, Karnataka. Data collection was done using in-depth interviews using a structured questionnaire to collect information on duration and exclusivity of breast-feeding (Exclusive-EBF, Formula-FF, and Partial-PBF), type of complementary foods (Homebased-HCF, Commercial-CCF, Mixed-MCF) given, episodes of vomiting, diarrhoea, upper respiratory infections (URTI), and antibiotic exposure. **Results:** EBF was observed in 50.5% of infants, PBF in 49%, and FF in 0.5%. On EBF for 6 months, 3% of infants had vomiting and 1% had diarrhoea, whereas, on PBF, 5.2 and 3% ( $p = 0.6$ ) of infants had vomiting and diarrhoea,

respectively. There were no instances of diarrhoea or vomiting in infants who received HCF. While 4.8 and 2.4% of infants on MCF had vomiting and diarrhoea, respectively ( $p = 0.27$ ). Antibiotic exposure was reported in 36.4% of HCF and 51.8% of MCF infants ( $p = 0.267$ ), respectively, primarily for URTI. **Conclusion:** A population-level increase in exclusive breastfeeding and use of appropriate home-based/traditional complementary feeding could lead to decreased incidence of gastrointestinal infections and antibiotic exposure. This would be of considerable public health significance in rural and urban communities.

**Keywords:** Antibiotics, Breastfeeding, Complementary feeding, Diarrhoea.

**File:** <https://gisicon21.org/videos/1625824063.png>

## E Poster Exhibition

### Prevalence of Occult Hepatitis B Infection in Chronic Liver Disease Patients: A Hospital-based Study

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DOI: 10.5005/jp-journals-10068-3034A.18

**Aim and background:** The occult hepatitis B (OBI) is defined as the presence of low-level serum DNA of hepatitis B virus (HBV) with concentration  $<200\%_{\infty}$  IU/mL, in and/or hepatocytes with the absence of serum HBsAg markers but anti-HBc and/or anti-HBs positive. The hepatitis B infection could persist in chronic liver disease (CLD) patients with the absence of HBsAg marker in serum. The present study aimed to investigate the prevalence of OBI among CLD patients. **Materials and methods:** The CLD patients admitted in the Medicine ward of GMCH were initially tested with the serological marker of HBsAg. Cases with negative HBsAg markers were again tested for HBcAb and HBsAb. The HBcAb or/and HBsAb positive with undetectable HBsAg cases were further investigated for the HBV DNA. The DNA isolation from serum and nested PCR amplification was performed targeting the conserved S gene of HBV. **Results:** Among 242 tested cases, 21 were found positive for HBsAg, and 221 cases were found negative for HBsAg. Of the 221 cases, 18 (8.1%) were tested positive for HBsAb, 21 (9.5%) were positive for HBcAb, and 11 (4.5%) found positive for both HBsAb and HBcAb. Of those suspected OBI, 13 cases from HBcAb positive, 14 from HBsAb positive, and 5 from both positive groups were tested for HBV DNA. Among them, 2 from HBcAb positive group and 1 from HBsAb and HBcAb both positive groups were detected with DNA whereas no DNA was detected from the 14 HBsAb positive groups. Two out of the three DNA-positive patients belonged to an indigenous Rabha community of Assam. **Conclusion:** The HBcAb essentially could be ideal for the management of HBV. Although the determination of HBV DNA is the gold standard but appears costly and the role of HBsAb needs further evaluation. The study brings to the foreground which group of patients should receive prophylactic antiviral therapy.

**Keywords:** Hepatitis, HBcAb, Occult Hepatitis B (OBI).

## E Poster Exhibition

### Microbial Assessment to Understand Multidrug Resistance Prevalence in Biliary Infection: A Retrospective Study

*Pavithra Sankar, Karthick Govindaraj, Secunda Rupert, Rosy Vennila, Jeswanth Sathyanesan, Surendran Rajagopal*  
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DOI: 10.5005/jp-journals-10068-3034A.19

**Background:** Biliary infection is the common cause of cholangitis, which can range from mild to life-threatening conditions. Bacterial colonization of bile occurs when the biliary tree is obstructed, during reflux of duodenal content, and/or after hepatobiliary surgery where a stent is placed. These bacteria may invade the system through blood circulation that leads to sepsis. **Aim and objective:** To identify the microbial etiology of biliary infection in a tertiary care hospital. **Materials and methods:** A retrospective study was conducted using microbiological data obtained from January 2018 to December 2019 at the Institute of Surgical Gastroenterology, Government Stanley Hospital. The microbiological profile(s) (aerobic bacteria) and its susceptibility were assessed in bile samples obtained from hospitalized patients admitted for GI tract illness/infection. **Results:** A total of 241 bile samples were collected from patients comprising 141 males and 100 females with a mean age of 51 years. Biliary infection was found to be more prevalent in the range of 40–50 years. Wherein, 173 (72%) samples out of the 241 collected were culture positive (237 isolates). Amongst the isolates, *Escherichia coli* (41%) and *Klebsiella* species (33%) were predominant followed by *Pseudomonas*, *Acinetobacter*, *Proteus*, *Enterobacter* along with other non-fermenter Gram-negative bacilli (NFGNB). On antimicrobial susceptibility testing, 187 (79%) were ESBL (extended spectrum beta-lactamase), 69 (29%) was CRE (carbapenem-resistant Enterobacteriaceae), and 7 (3%) were carbapenem-resistant *Acinetobacter*. **Conclusion:** There is a prevalence of ESBL and CRE in biliary infection in the patient cohort studied. To contain the prevalence of such MDR bacteria, it is imperative that the treatment regime begins with the first-generation antibiotics whilst awaiting microbial culture reports. The appropriate antimicrobial therapy should also be initiated without delay to prevent the systemic spread of the infection.

**Keywords:** Biliary infection, Bile, CRE, ESBL, *Escherichia coli*.

## E Poster Exhibition

### Carbapenem-resistant Enterobacteriaceae in Gastrointestinal Surgery

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DOI: 10.5005/jp-journals-10068-3034A.20

**Background:** Antibiotic-resistant gram-negative bacteria is an emerging problem. Those bacteria develop the spectrum of resistance by adapting multiple structures and by producing antibiotic degrading enzymes such as ESBL (extended-spectrum

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beta-lactamase), AmpC cephalosporinases, and carbapenemases. Among which carbapenem-resistant Enterobacteriaceae (CRE) including non-fermenting gram-negative bacilli (NFGNB) has become an important concern. **Aim and objective:** To detect the postoperative infection in gastrointestinal surgery caused by CRE. **Materials and methods:** The study was conducted on clinical samples obtained from hospitalized patients at the Institute of Surgical Gastroenterology and Liver Transplant, Government Stanley Hospital, Chennai. In a study period, a total of 716 clinical samples were tested by basic microbiological and biochemical testing methods. The identified isolates were tested for antimicrobial susceptibility by disk diffusion method and confirmed by *E*-test with predefined antibiotic gradients (imipenem, meropenem) to determine its minimum inhibitory concentration (MIC). **Results:** Among 716 samples, 323 were tested positive for various microorganisms, of which 205 Enterobacteriaceae were identified. In which, 93 isolates were resistant to carbapenem drugs by disk diffusion method and 50 isolates were selected among them for *E*-test. The most predominant organism is *Klebsiella* species (68%), *Escherichia coli* (22%) followed by NFGNB (6%) and *Enterobacter* species (4%). The isolates showed a resistance range of 4 for meropenem and imipenem. **Conclusion:** Care is necessary while diagnosing, treating, and preventing CRE infections. These bacteria possess multiple resistance mechanisms that include loss of porin channels with the hyperproduction of AmpC or ESBL, overexpression of efflux pump, and carbapenemase production.

**Keywords:** Carbapenem resistance, Carbapenemase, Enterobacteriaceae, *E*-Test, Postoperative infection.

**File:** <https://gisicon21.org/videos/1626675345.jpg>

### E Poster Exhibition

#### Clinical Vignette of Catarrhal Hepatitis

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DM Medical Gastroenterology First Year Postgraduate

DOI: 10.5005/jp-journals-10068-3034A.21

**Case description:** Acute hepatitis A presented as a fulminant hepatic failure. **Clinical presentation:** A 35-year-old woman presented with jaundice, preceded by prodromal symptoms. No history of travel, drug intake before the onset of illness. Within a week of the onset of jaundice, the patient presented with altered sensorium. On evaluation, the patient had bilirubin value 26.3 mg/dL with significant transaminitis of 10-fold elevation and elevated INR of 2.5. Renal function test normal serum creatinine of 0.8 mg%. Provisionally worked up as acute hepatitis with liver cell failure. On evaluation found to have acute hepatitis A. Patient managed with liver supportive measures after counseling for the need for liver transplantation and the patient recovered from hepatic encephalopathy and had progressive improvement in liver function test. **Conclusion:** Generally, acute hepatitis A is a self-limited illness and only requires supportive management. Case fatality rate to be 0.02/lakh population, highest among older persons age 75 years. <Less than 1% of cases of HAV infection in adults will progress to fulminant liver failure. This case is reported for its rarity of fulminant hepatic failure and recovery without the need for transplant because of its hyperacute presentation and normal creatinine values. Clinical predictors of acute liver failure associated mortality were a serum creatinine >2 mg/dL, total bilirubin >9.6 mg/dL, and albumin <2.5

g/dL. Of these, creatinine has the best sensitivity and specificity for predicting ALF and mortality.

**Keywords:** Acute hepatitis A, Albumin, Hyperacute liver failure, Serum creatinine, Total bilirubin.

**File:** <https://gisicon21.org/videos/1626699080.docx>

### E Poster Exhibition

#### An Unusually Encountered Bacterium Causing Diarrhea, *Kluyvera ascorbata*: A Case Report

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DOI: 10.5005/jp-journals-10068-3034A.22

**Aim and background:** A 4-year-old child presented with a pathological fracture with on and off low-grade fever and petechial rash over the body. The child underwent a complete blood count for the above complaints, which revealed anemia, thrombocytopenia, and peripheral smear showed 25% blast cells. He was later referred to our hospital, where further confirmatory investigations, including bone marrow aspiration, confirmed Pre-B acute lymphoblastic leukemia. The child was initiated on induction chemotherapy as per institutional protocol, which constitutes four-drug chemotherapy. During the third week of treatment, the patient experienced diarrhea when a stool sample was examined for diarrheal etiology. **Materials and methods:** Manual Biochemicals and antimicrobial susceptibility testing (AST) was also performed according to CLSI guidelines by Kirby-Bauer's disk diffusion method. Automated identification by matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF MS) and AST by Vitek (Biomerieux) were also performed. **Results:** Selenite faecal broth subculture of the stool sample yielded large irregular moist late lactose fermenting colonies on MacConkey's agar. Gram smear of colonies showed Gram-negative bacteria. The isolate was oxidase-negative, catalase-positive, reduced nitrate, utilized citrate, decarboxylated ornithine, fermented glucose, produced gas, and did not produce H<sub>2</sub>S was biochemically identified as *Kluyvera* spp. *Kluyvera* was differentiated from *Citrobacter* by its inability to produce arginine dihydrolase. MALDI-TOF confirmed the isolated pathogen as *Kluyvera ascorbata*. By both manual disk diffusion and Vitek minimum inhibitory concentration, the bacterium was found to be susceptible to amoxicillin-clavulanic acid, ceftriaxone, ciprofloxacin, cotrimoxazole, and gentamicin but resistant to ampicillin and cefuroxime. **Conclusion:** We isolated and identified an unusual pathogen from the stool. *K. ascorbata* has been associated with opportunistic infections in immunocompromised patients like ours. Though diarrhea resolved within 2 days of appropriate treatment with cotrimoxazole, *K. ascorbata* as a causative agent of diarrhea is probably underestimated as biochemical identification patterns are similar to those of other related genera.

**Keywords:** Diarrhea, Immune compromised patients, *Kluyvera ascorbata*, Pre-B acute lymphoblastic leukemia, Stool.



## E Poster Exhibition

### **Salmonella Bacteremia in an Urban Slum Population: A Perspective of Secondary Care Center of New Delhi**

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DOI: 10.5005/jp-journals-10068-3034A.23

**Aim and background:** Enteric fever causes substantial illness and deaths in developing and underdeveloped countries, due to a lack of diagnostic facilities and an increase in the resistance pattern of *Salmonella*. Azithromycin and third-generation cephalosporin are increasingly being used in the treatment of invasive *Salmonella* infections in view of resistance to first-line antibiotics. Errant use of azithromycin in upper respiratory tract infections and over-the-counter availability of drugs without prescription had added to the rising incidences of cephalosporin and azithromycin resistance.

**Materials and methods:** A retrospective analysis of all samples received for blood culture from April 2018 to September 2018 was done. Clinical, demographic, and antimicrobial sensitivity patterns were studied in the pediatric population (<12 years) having *Salmonella* bacteremia from the medical record department. Blood culture was done with an automated blood culture system. Antibiotic susceptibility testing and interpretation were done with Kirby–Bauer's disk diffusion method and as per CLSI 2018, respectively. **Results:** Out of the 452 samples, 139 beeped positive of which 67 were *Salmonella* positive. Among these, 60 were pediatric and 7 adult age group. Median TTB was 3 days (range: 2–4 days). The mean age of the pediatric and adult population was  $7.7 \pm 3.3$  and  $22.3 \pm 4.5$  years, respectively. Female predominance was seen with M:F ratio of 1:1.39. The majority were admitted in wards (44, 65.7%). Out of 67 culture-positive patients, 46 (68.6%) were also TyphiDot IgM positive while Widal was positive in only 23 (34.3%). Azithromycin and cephalosporin sensitivity were seen in 27 (19.4%) and 45 (67.2%), respectively. **Conclusion:** Knowledge of the antibiotic resistance pattern serves as a significant platform in improving the empirical antibiotic therapy. Resistance rates in *Salmonella* spp. are alarming, in particular for azithromycin and ciprofloxacin. This warrants nationwide surveillance and revision of treatment guidelines.

**Keywords:** Azithromycin resistance, Bacteremia, Pediatric, *Salmonella*, Urban slum population.

## E Poster Exhibition

### **A Case Recurrent Pyogenic Cholangitis**

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DOI: 10.5005/jp-journals-10068-3034A.24

**Case description:** A 20-year-old male was admitted with features of cholestatic jaundice with cholangitis for 10 days duration. The patient had a history of a similar episode 8 years back and was diagnosed with obstructive biliopathy probably due to choledocholithiasis with cholangitis and underwent biliary stenting. No stone was retrieved at that time. Was symptom-free till now. On evaluation had cholestatic jaundice with bilirubin around 6.8 mg% with polymorphonuclear leukocytosis. Viral markers were negative. Ultrasound showed intrahepatic biliary radicles dilatation and MRCP showed left hepatic

duct had irregular narrowing at the confluence with dilatation and beaded appearance in intrahepatic branching ducts, cholangitis with evolving abscess in the left lobe of the liver, terminal bile duct showed smooth tapering and no choledocholithiasis. ERCP was done and an air cholangiogram showed dilated common bile duct and tapering of intrahepatic radicles suggestive of recurrent pyogenic cholangitis and balloon trawling done sludge removed and biliary stenting was done after assessing biliary clearance. Bile aspiration was cultured and *E. coli* was isolated. A percutaneous liver biopsy was done to rule out PSC and it showed only cholestasis with mild bile duct proliferation. Atypical pANCA was negative. Colonoscopy showed no evidence of colitis. Liver function test normalised after stenting and patient is on follow-up. Recurrent pyogenic cholangitis is rare and to be suspected if biliary dilatation is out of proportion to obstructing stone or stricture with intrahepatic radicles tapering. Early endoscopic therapy prevents complications and some patients need multiple sessions.

**Keywords:** Cholangitis, Obstructive biliopathy.

**File:** <https://gisicon21.org/videos/1626713027.jpg>

## E Poster Exhibition

### **Intestinal Parasitic Infections among Patients Attending a Tertiary Care Hospital**

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DOI: 10.5005/jp-journals-10068-3034A.25

**Background:** Intestinal parasitic infections (IPIs) are one of the major causes of global disease burden. Approximately 1.5 billion people are infected with soil-transmitted helminths worldwide. In India, the most common causes of intestinal parasitic infections are roundworms, hookworms, *Entamoeba histolytica*, *Giardia*, and *Cryptosporidium parvum* leading to vitamin deficiencies, anemia, and decreased cognitive outcomes, especially in children. Several studies in different parts of India show that IPIs continue to predominate despite treatment. **Aim and objective:** To determine the prevalence of intestinal parasitic infections among patients attending our tertiary care hospital in a rural setup. **Materials and methods:** This retrospective study was done at the Department of Microbiology, RLJ Hospital, Kolar. Data for the period of 3 years (July 2018 to June 2021) were collected from laboratory records. Details of stool microscopy (saline mount and iodine mount) and demographic data of the patients were also collected. Descriptive statistics were used to summarize the results of the study. **Results:** During the study period, a total of 892 patients were screened for intestinal parasites. Out of 892 patients, 62 were positive for various parasites by stool microscopy. The prevalence of IPIs in our hospital is 7%. The most common intestinal parasite was *Entamoeba histolytica* (5.3%), followed by hookworms (1.2%), *Ascaris lumbricoides* (0.4%), *Strongyloides stercoralis* (0.1%), *Giardia lamblia* (0.1%), and *Taenia* (0.1%). **Conclusion:** Our study helps access the burden of parasitic infections. Early diagnosis and treatment of IPIs may prevent the complications. Periodic deworming and health education may reduce the disease burden.

**Keywords:** Intestinal parasitic infections.

**File:** <https://gisicon21.org/videos/1626777511.jpg>

**Table 1:** Age-wise distribution of intestinal parasitic infections

Age group (years)	Total patients screened for IPIs	No. of patients screened positive for IPIs (%)
0–10	159	3 (1.9)
11–20	64	5 (7.8)
21–30	141	10 (7.09)
31–40	136	8 (5.9)
41–50	165	8 (4.8)
51–60	108	12 (11.1)
>60 years	119	15 (12.7)
Total	892	62 (7)

IPIs, intestinal parasitic infection

## E Poster Exhibition

### A Case of Distal Colonic Tuberculosis Mimicking as Inflammatory Bowel Disease

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DOI: 10.5005/jp-journals-10068-3034A.26

**Aim and background:** Extrapulmonary tuberculosis occurs in approximately 20% of tuberculosis cases in immunocompetent patients, with tuberculous enteritis accounting for approximately 1 to 3% of tuberculosis cases worldwide. The ileocaecal region is the most commonly affected site; however, any portion of the GI tract can be involved. Isolated distal colonic involvement is very rare and can present with vague signs and symptoms, and for diagnosis, we should have a high index of suspicion. **Case description:** A 26-year-old male presented with a 2-month history of intermittent abdominal pain, diarrhea, and 8 kg weight loss, with constitutional symptoms in the form of fever. For these symptoms, the patient was evaluated and underwent colonoscopy in another center and diagnosed as colitis, and started on mesalamine in view of inflammatory bowel disease as per endoscopic and histopathological findings. There was no clinical improvement, rather further worsening of symptoms on follow-up. The patient was re-evaluated. Repeat colonoscopy revealed multiple punched-out, ulcerated lesions with segmental involvement starting from rectosigmoid junction involving descending colon up to splenic flexure. Rest of colonic mucosa, caecum, and terminal ileum was normal. The histopathological finding was suggestive of tuberculosis and was confirmed by gene expert study. Based on these findings, treatment started with CAT-1 ATT. There has been significant improvement in bowel symptoms and weight gain during the follow-up. **Conclusion:** Distal colonic tuberculosis can mimic inflammatory bowel disease on a clinical, endoscopic, and histopathological basis. Considering the endemic nature of tuberculosis, one needs to have a high index of suspicion even when the presentation of the lesion occurs at an unusual site.

**Keywords:** Distal colonic tuberculosis mimicking inflammatory bowel disease.

## E Poster Exhibition

### Surgical Site Infection in Gastrointestinal Surgeries: Incidence, Risk Factors, and Microbial Profile at a Rural Tertiary Teaching Hospital in Southern India

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DOI: 10.5005/jp-journals-10068-3034A.27

**Aim and background:** Surgical site infection (SSI) leads to significant morbidity and financial burden for the patients. The incidence of SSI is much higher with gastrointestinal (GI) surgery. SSI is preventable and the information on SSI rate, risk factors, and the microbial profile are essential in prevention and management. This study aimed to determine the incidence, risk factors, and microbial profile of SSI among GI surgery cases. **Materials and methods:** From January 2019 to June 2021, data on diagnosis, type of surgery, pathogen isolated and its antibiotic susceptibility pattern among SSI in GI surgery cases was collected from the repository of hospital infection control indicators. Data on the total number and different types of GI surgeries were collected from Surgical Registry. Incidence was calculated based on the CDC formula. Microbial and antibiotic profile was analyzed as percentages and the strength of association between different variables was estimated by Chi-square test. **Results:** During the study period, there were 60 cases of SSI out of 847 GI surgeries performed accounting for an overall incidence of 7.08%. The incidence and operative risk factors for SSI in different gastrointestinal surgeries are presented. All the SSIs were of superficial type. The microorganisms isolated from SSI cases are shown. Multidrug resistance was seen in 60% of the isolates. **Conclusion:** The study brings out the regional incidence rate, risk factors, characteristics, and microbial profile of SSI in GI surgeries which can aid in the prevention and appropriate management of SSI cases.

**Keywords:** Gastrointestinal surgeries, Incidence, Risk factors, SSI.

**File:** <https://gisicon21.org/videos/1626792260.jpg>

## E Poster Exhibition

### Multiple Antibiotic Resistance Index of Isolates from Secondary Peritonitis Cases Due to Hollow Viscus Perforation from a Rural Tertiary Care Hospital

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DOI: 10.5005/jp-journals-10068-3034A.28

**Aim and background:** Aims Secondary peritonitis by viscus perforation is a surgical emergency. Empirical antibiotic therapy and

surgical intervention are vital for preventing morbidity and mortality due to secondary peritonitis. In the era of emerging antimicrobial resistance, the management of secondary peritonitis is a challenge for surgeons. Multiple antibiotic resistance index (MAR) is a valid, cost-effective method for source tracking of antibiotic-resistant organisms. MAR >0.2 indicative of multiple resistant bacteria. Hence, this study is undertaken to identify the bacterial isolates and to determine the MAR Index of the isolated bacteria from peritoneal fluid of patients with secondary peritonitis due to viscus perforation. **Materials and methods:** The peritoneal fluid culture and sensitivity data from Microbiology Laboratory Registry of RL Jalappa Hospital and Research Centre, Kolar was collected from January 2019 to March 2020. Data were analyzed retrospectively, the isolates and antibiogram were determined. "MAR Index = "Number of antibiotics resistant to the isolates"/"Total number of antibiotics tested" data analyzed using SPSS software Version 22.0 and results were tabulated on frequency tables. **Results:** Peritoneal fluid cultures of 96 patients with 111 isolates were isolated and analyzed. Of which, 87 patients had a monomicrobial infection and 9 patients had a polymicrobial infection. Among 111 isolates, most common isolate were *E. coli* 59 (53.15%) followed by *Klebsiella pneumoniae* 23 (20.7%), *Enterococcus* species 14 (12.61%), *Enterobacter* species 12 (10.8%), and *Staphylococcus aureus* 3 (2.7%). **Conclusion:** The finding from our study revealed the high antimicrobial resistance among the isolates from peritoneal fluid and the need for effective and appropriate utilization of antibiotics by framing an antibiotic policy.

**Keywords:** Multiple antibiotic resistance, Peritoneal fluid culture.

**File:** <https://gisicon21.org/videos/1626836837.jpg>

## E Poster Exhibition

### Is Ascitic Fluid Cholesterol Superior to Serum-ascites Albumin Gradient in Detection of Non-portal Hypertension Ascites and Diagnosing Mixed Ascites?

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DOI: 10.5005/jp-journals-10068-3034A.29

**Aim and background:** To investigate the diagnostic performance of ascitic cholesterol in the differential diagnosis of ascites. **Materials and methods:** In this prospective cohort study, all eligible patients with new-onset ascites were assessed for eligibility. The ascitic fluid cholesterol was determined by the CHOD-PAP method using a cholesterol determination assay kit. **Results:** Most common cause of portal hypertension was cirrhosis (81%) due to alcohol (59%). The most common cause of non-portal hypertension was tuberculous ascites (54.8%). Among 60 patients of mixed ascites, 59% had portal hypertension with carcinoma without peritoneal mets. 91% of patients of malignant ascites had ascitic cholesterol >45 mg/dL, while 75% had SAAG <1.1 g/dL. In tuberculous ascites, 100% of patients had ascitic cholesterol >45, while 90% had SAAG <1.1 g/dL. Among portal hypertension, 82% of patients had ascitic cholesterol <45 g/dL, and 89% had SAAG >1.1 g/dL indicating the almost similar performance of both in differentiating PHTN from NPHTN ascites. Among portal hypertension, 82% of patients had ascitic cholesterol <45 g/dL and 89% had SAAG >1.1 g/dL. Among

patients with mixed ascites, 90% of patients of PHTN and carcinoma without peritoneal mets and 89% of patients of PHTN and benign NPH without peritoneal involvement had ascitic cholesterol <45 mg/dL, while 75% of mixed ascites with peritoneal mets and 100% of patients of mixed ascites with benign NPH and peritoneal involvement had ascitic fluid cholesterol >45. This suggested that patients with mixed ascites with AF cholesterol >45 had peritoneal lesions. **Conclusion:** High ascitic cholesterol ( $\geq 45$  mg/dL) has a high sensitivity for detecting NPH-related ascites; ascitic cholesterol is a valuable parameter for patients misdiagnosed according to SAAG classification. In mixed ascites, ascitic cholesterol is useful in identifying peritoneal lesions, such as peritoneal carcinomatosis and tuberculous peritonitis.

**Keywords:** Ascites, Cholesterol, SAAG (serum ascites albumin gradient), NPH (non-portal hypertension).

## E Poster Exhibition

### Post SARS-CoV-2 Infection Related Colonic Ulcerations Masquerading as Gastrointestinal Mass

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SARS-CoV-2 infection has varied manifestations, ranging from predominant respiratory symptoms to only gastrointestinal manifestations to completely asymptomatic course. Coronavirus can be found in the stool even after other symptomatic recovery and nasal/pharyngeal swabs become negative. GI involvement in COVID also has varied manifestations which can range from diarrheal illness to necrotizing colitis. We had a case of 42 years old female, without any prior comorbidities, having a fever of moderate severity, with shortness of breath, was diagnosed with SARS-CoV-2 infection-related pneumonia for which she received supportive treatment. There was no history of NSAIDs, or tocilizumab, remdesivir treatment. She recovered gradually and was discharged. After 7 days of her COVID therapy, she developed pain in the right iliac fossa, imaging was suggestive of cecal mass, was referred to us as a possible case of disseminated malignancy with GI involvement, and tumor markers were normal. Abdominal computed tomography showed asymmetrical thickening of the caecum and IC junction. Figure suggestive of <1 cm hypodense lesions too small to characterize in the liver. She underwent colonoscopy, which showed ulcerations in the cecum and ascending colon. Biopsy taken. Biopsy of the colonic ulcer showed inflammatory exudate, ulceration, cryptitis, and congested vessels. No microscopic coagulopathy, crypt abscess, mucin depletion, hemosiderin deposits, parasite, vasculitis, malignancy, and granuloma was seen. This was likely related to Post COVID Colonic ulcerations. She was treated conservatively and her symptoms resolved on follow-up.

**Keywords:** Colonic ulcerations, Caecal mass, Colonoscopy, Colonic biopsy, SARS-CoV-2 infection.

**File:** <https://gisicon21.org/videos/1626947107.docx>

E Poster Exhibition

**Exclusive Percutaneous Catheter Drainage (PCD) for Infected Pancreatic Necrosis (IPN): Outcome and Predictors of Mortality**

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DOI: 10.5005/jp-journals-10068-3034A.31

**Aim and background:** Infected pancreatic necrosis (IPN) is associated with high mortality. A proactive percutaneous catheter drainage (PCD) strategy, may lead to decreased systemic inflammation and improved outcomes, but the information is limited about exclusive PCD management (without necrosectomy) for IPN. **Materials and methods:** This study aimed to determine the outcomes of exclusive PCD interventions for IPN patients. The database of 156 consecutive acute pancreatitis patients, hospitalized between May 2018 and July 2020, was analyzed for outcomes of exclusive PCD management (without necrosectomy) for IPN. **Results:** Thirty patients with pancreatic necrosis were exclusively managed by PCD; 25 (83.3%) survived and 5 (16.7%) died. The survivors and non-survivors had a similar mean age ( $37.7 \pm 11.3$  vs  $47.6 \pm 14.8$  years,  $p$  0.10), male patients (84 vs 60%,  $p$  0.22), mCTSI ( $9.28 \pm 1.40$  vs  $9.20 \pm 1.79$ ,  $p$  0.96), degree of necrosis (20:68:12 and 20:40:40 for <30%, 30–50%, >50% necrosis, respectively,  $p$  0.29), infected necrosis (76 vs 80,  $p$  0.85), and drug-resistant bacteria (72 vs 80,  $p$  0.64). However, non-survivors group had fewer alcoholic pancreatitis (0 vs 64%,  $p$  0.03), higher BISAP score ( $2.6 \pm 0.6$  vs  $1.7 \pm 0.7$ ,  $p$  0.02), more patients with multiple organ failures (80 vs 0%,  $p$  0.00); shorter pain onset to hospitalization ( $9.2 \pm 8.1$  vs  $27.9 \pm 22.3$  days,  $p$  0.03) and pain onset to PCD placement interval ( $20.6 \pm 7.6$  vs  $39.1 \pm 20.8$  days,  $p$  0.02), more number of PCDs per patient ( $1.8 \pm 0.8$  vs  $1.5 \pm 0.9$ ,  $p$  0.33), lower fall in SIRS post PCD ( $0.6 \pm 0.6$  vs  $1.7 \pm 0.45$ ,  $p$  0.00), and shorter PCD dwell time ( $17.2 \pm 6.5$  vs  $41.2 \pm 38.8$  days,  $p$  0.01). **Conclusion:** For IPN, exclusive PCD management has a high success rate (83.3%). Etiology, the severity of pancreatitis, and multiple organ failures are associated with higher mortality.

**Keywords:** Drug-resistant bacteria, Infected pancreatic necrosis, Percutaneous catheter drainage.

E Poster Exhibition

**Uncommon Presentation of Strongyloidiasis**

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DOI: 10.5005/jp-journals-10068-3034A.32

**Aim and background:** *Strongyloides stercoralis* is a free-living tropical and semitropical soil helminth. It generally causes asymptomatic infection but in immunocompromised hosts causes disseminated strongyloidiasis. Here, we report two cases of *Strongyloides* infection presenting with protein-losing enteropathy. **Case 1:** A 30-year-old immunocompetent male presented with anasarca for 1 month. On evaluation, hemoglobin (10.9 g/dL) and serum protein (2.8 g/dL) were low; other laboratory findings were normal. CT abdomen showed jejunoileal fold pattern reversal with mesenteric lymphadenopathy. Upper gastrointestinal endoscopy showed duodenal fissuring, laparoscopy showed prominent mesenteric lymph

nodes, histopathological examination showed larvae and eggs of *Strongyloides*. The patient was treated with 2 days of oral ivermectin and is asymptomatic on 7 months of follow-up. **Case 2:** A 53-year-old female presented with increase stool frequency large volume, non-bloody stool, 5 to 6 times per day associated with 10 to 12 episodes of vomiting per day along with diffuse dull aching abdominal pain for 20 days. On evaluation, hemoglobin (8.9 g/dL), protein (4.1 g/dL), albumin (1.6 g/dL), stool R/M, CRP, CT abdomen, OGD scopy, and colonoscopy were normal. D2 biopsy was normal. Histopathological examination of ileal biopsy s/o Strongyloidiasis. The patient started on ivermectin for 5 days and was asymptomatic after 2 months of follow-up. **Conclusion:** Our patients were normal immunocompetent persons with suspected protein-losing enteropathy due to diffuse intestinal strongyloidiasis. Repeated stool examinations were negative for parasitic infections. Endoscopic examination with histopathologic analysis is a useful modality in these difficult-to-diagnose cases. Response to ivermectin is complete and sustained in most cases.

**Keywords:** Strongyloidiasis, Protein-losing enteropathy.

**File:** <https://gisicon21.org/videos/1627060991.png>

E Poster Exhibition

***Clostridioides difficile* Infection in Severely Ill COVID-19 Patients**

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DOI: 10.5005/jp-journals-10068-3034A.33

**Aim and background:** *Clostridioides difficile* infection (CDI) is common with the widespread use of broad-spectrum antibiotics in the COVID-19 pandemic. There is an overlap of GI symptoms between these two infections. **Materials and methods:** We have screened severely ill COVID-19 patients with persistent diarrhea for CDI. Stool assay for GDH and stool enzyme immunoassay for toxin were screening and confirmation tests, respectively. **Results:** Among, 32 screened patients, we have identified 11 patients with CDI coinfection. All patients had persistent diarrhea as presenting complaints. However, six patients complained of bloody diarrhea. Other clinical features include fever in four patients and abdominal pain in two patients. The most commonly used antibiotic was ceftriaxone. Severe CDI was noted in eight patients. All patients with severe CDI were on steroids. Colonoscopy was done in seven patients, which revealed erythematous mucosa in all patients, focal pseudomembrane in three patients, and diffuse pseudomembrane in one patient. Histology revealed predominant neutrophilic infiltrate in all patients. Computed tomography was done in four patients—all patients had diffuse bowel wall thickening. The accordion sign was seen in two patients. All patients received the standard medical line of management. Three patients with mild CDI improved with antibiotics. However, one patient succumbed to respiratory complications. Five patients with severe infection succumbed—three due to *C. difficile*-related complications, one each due to respiratory failure and multiorgan dysfunction. **Conclusion:** CDI in COVID-19 patients may be challenging, and needs a high degree of suspicion. Judicious use of antibiotics is advisable in COVID-19 hospitalized patients.

**Keywords:** Antibiotics, COVID-19, *C. difficile*.

**File:** <https://gisicon21.org/videos/1627062522.rtf>

## E Poster Exhibition

### Emergence of Ceftriaxone Resistance among *Salmonella enterica* Serovar Typhi and *S. enterica* Serovar Paratyphi A Isolates, in a Tertiary Care Hospital of North India

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DOI: 10.5005/jp-journals-10068-3034A.34

**Aim and background:** Multidrug-resistance along with reduced susceptibility to fluoroquinolones is a major problem for the treatment of enteric fever caused by *Salmonella enterica* serovar Typhi/Paratyphi. Additionally, sporadic reports of emerging resistance to third-generation cephalosporins are a matter of great concern. **Materials and methods:** The present study was undertaken to evaluate the magnitude of fluoroquinolone resistance and the emergence of ceftriaxone resistance among *Salmonella enterica* serovar Typhi/Paratyphi A isolates, from a tertiary care hospital of North India. A retrospective study was carried out on the *Salmonella enterica* isolate, which was obtained from blood samples of the patients suspected of enteric fever from January 2020 to June 2021. All the blood specimens were collected taking all aseptic precautions and were processed as per standard. The isolates were identified and their antimicrobial susceptibility testing was performed using VITEK 2. All the *Salmonella enterica* isolates were further confirmed by serotyping. The Clinical and Laboratory Standards Institute, 2019 guidelines were used to interpret the susceptibility profile of *S. Typhi* and *S. Paratyphi A*. **Results:** A total of 102 *S. enterica* isolates were obtained during the study period; 78 isolates (76.5%) were identified as *Salmonella enterica* serovar Typhi and 24 (23.5%) were identified as *Salmonella enterica* serovar Paratyphi A. Approximately, 78 and 100% of the *S. Typhi* and *S. Paratyphi A* isolates, respectively, were resistant to ciprofloxacin. The remaining *Salmonella enterica* serovar Typhi isolates had reduced susceptibility to ciprofloxacin. Only one isolate of *Salmonella enterica* serovar Typhi was found to be resistant to ceftriaxone, a third-generation cephalosporin. **Conclusion:** The incidence of *S. enterica* serovar Typhi and *S. enterica* serovar Paratyphi A isolates with resistance or decreased fluoroquinolone susceptibility is very high. The emergence of resistance towards third-generation cephalosporins has raised an alarm that needs prompt action in terms of control of the disease and further spread.

**Keywords:** Ceftriaxone, Ciprofloxacin, *Salmonella enterica* serovar Typhi/Paratyphi.

## E Poster Exhibition

### Profile of Bacterial Infections in COVID-19 Patients in a Tertiary Care Hospital of Punjab

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DOI: 10.5005/jp-journals-10068-3034A.35

**Background:** Bacterial co-infections are commonly identified in viral respiratory tract infections and are an important cause of morbidity and mortality, necessitating timely diagnosis and appropriate antibacterial therapy. **Aim and objective:** To study the bacteriological profile of infections in COVID-19 patients.

**Materials and methods:** The present study includes 200 consecutive COVID-positive patients admitted to DMCH, Ludhiana. Various samples like urine, sputum, ET secretions, blood, and body fluid were received for culture. Samples were processed as per standard protocol. Identification of isolates and antimicrobial susceptibility testing was done by an automated Vitek-2 compact system. **Results:** Out of 200 COVID patients, 63.5% were males and 36.5% were females. The majority of the infected patients (45%) were in the 41- to 60-year age group and 34% were above 60 years of age. Maximum (7%) cases of secondary bloodstream infections (BSI) were observed in COVID patients, followed by respiratory tract infection (RTI) 5.5% (11/200), urinary tract infection (UTI) 4% (8/200), and peritonitis 1% (2/200). A total of 44 isolates were obtained from these patients. Gram-negative organisms (63.6%) were predominant over gram-positive (34%) and yeast (2.2%). The most commonly isolated pathogens were *Acinetobacter baumannii*, *Klebsiella pneumoniae*, *Escherichia coli*, *Enterococcus* spp., CONS, and *S. aureus*. These isolates were highly resistant to cephalosporins, fluoroquinolones, and aminoglycosides. **Conclusion:** The overall proportion of bacterial co-infection in COVID-19 patients was low, but the usage of antibiotics was high. The predominance of gram-negative organisms in COVID-19 patients coupled with high rates of resistance to antimicrobials is alarming.

**Keywords:** COVID-19, Coinfections, Gram-negative organisms.

## E Poster Exhibition

### *Clostridium difficile*: Experience from a Tertiary Care Center

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DOI: 10.5005/jp-journals-10068-3034A.36

We retrospectively analyzed inpatient data of 1,311 patients admitted from January 2018 till June 2021 who underwent stool *Clostridium difficile* toxin assay, based on clinical suspicion. Thirty-five patients who tested positive were analyzed. Twenty-one patients were males, 14 females. The median age was 65.9 years. Twenty patients were hypertensive, 14 diabetics, 11 had ischemic heart disease. Two were post-renal transplants, 10 had past/present malignancy, three were on chemotherapy. Three had inflammatory bowel disease (IBD), ulcerative colitis 2, Crohn's disease 1. Symptomatically, 20 had diarrhea, 11 abdominal pain, 16 fever, and 4 abdominal distention. Five presented with gastrointestinal bleeding (hematochezia 1, 3 bleeding PR, and one melena). Seven had significant hypotension requiring fluid resuscitation, 12 needed inotropes. Patients had leukocytosis (median leukocyte count 12,490), elevated ESR (median 38), anemia (median hemoglobin 10.3 g/dL), elevated C-reactive protein (median 10.59), and hypoalbuminemia (median 2.8 g/dL). Twenty-one had abnormal radiological findings (colonic dilatation 4, small bowel dilatation 5, paralytic ileus 6, air-fluid levels in 5, and one patient had hollow viscous perforation with air under diaphragm). Only 11 patients underwent colonoscopy for various indications and 8 had endoscopic evidence of pseudomembranes and 3 had a normal colonoscopy but the biopsy was suggestive of pseudomembranous colitis. In our center, all patients have been prescribed a combination of metrogyl and vancomycin at standard dosing. In our patients, three patients underwent

## ABSTRACTS

colectomy (one hollow viscous perforation, two toxic megacolon unresponsive to therapy) and five patients succumbed within 30 days of hospitalization.

**Keywords:** *Clostridium difficile*, Colectomy, Toxic megacolon.

**File:** <https://gisicon21.org/videos/1627230709.docx>

### E Poster Exhibition

**Cirrhosis: Not Always Irreversible!!!!!!!**

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DOI: 10.5005/jp-journals-10068-3034A.37

**Case report:** A 13-year-old female child, a known case of B-cell acute lymphoblastic leukemia (B-ALL) under remission presented with complaints of abdominal distension of 3-week, pedal edema of 1-week duration. The patient denied any history of jaundice, altered sensorium, bleeding, and febrile prodrome. General physical examination revealed an icteric sclera with pedal edema. Management: Laboratory investigations revealed thrombocytopenia (platelet count of 90,000/mm<sup>3</sup>), hypoalbuminemia (serum albumin of 2.8 g/dL), deranged coagulogram with an INR of 1.9, and liver function tests. Ultrasound revealed an irregular outline of the liver and gross ascites. Etiological work-up was remarkable for hepatitis B surface antigen positivity (HBeAg +ve, Anti Hbe Ab –ve, IgM anti-HbC –ve, HBV DNA levels— $3.7 \times 10^7$ ). Ascitic fluid analysis was high SAAG (serum ascitic albumin gradient) and low protein type without any evidence of spontaneous bacterial peritonitis. On transient elastography (TE) done after therapeutic paracentesis showed a liver stiffness measurement (LSM) of 18.3 kPa (normal being <6 kPa). Upper gastrointestinal endoscopy revealed mild portal hypertensive gastropathy without any esophageal varices. A liver biopsy on Masson trichrome stain showed bridging fibrosis and incomplete nodule formation (Ishak fibrosis score –5, necroinflammatory score –6). Outcome and Follow-up: The child was started on entecavir in May 2013. By October 2013 showed normalisation of LFTs with a resolution of ascites. In March 2014, there is seroconversion of HBe antigen and by December 2014, the HBV DNA had become undetectable. TE done in November 2014 an LSM of 5.6 kPa. The patient continues to do well with maintained viral suppression and normal liver function tests.

**Keywords:** Cirrhosis, Hepatitis B, Reversible.

**File:** <https://gisicon21.org/videos/1627232466.tiff>

### E Poster Exhibition

**A Study of *Clostridium difficile* Positivity in a Tertiary Care Hospital**

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DOI: 10.5005/jp-journals-10068-3034A.38

**Background:** *Clostridium difficile* is an anaerobic, spore-bearing bacteria that can colonize hospitalized patients commonly. Toxin-producing strains are an important cause of nosocomial diarrhea. Correct diagnosis of *C. difficile* infection (CDI) is still a challenge for laboratories. **Aim and objective:** To study the positivity of

*Clostridium difficile* in admitted patients. **Materials and methods:** This is a retrospective study. A total of 521 freshly passed stool samples received in the Department of Microbiology from January 2021 to June 2021 were included in the study. The samples (521) were tested for the presence of glutamate dehydrogenase antigen (GDH Ag), toxin A, toxin B by an ICT (immunochromatography test, Vittassay). **Results:** A total of 521 stool samples were received, from 294 (56.5%) male patients and 227 (43.5%) female patients. Out of these, 59 (11.3%) samples were found positive by ICT. Positivity was more among males (57.6%) when compared with females (42.4%). The most common age group of positive patients were 40–60 years. A total of 57 (10.9%) samples showed the presence of the GDH enzyme. Out of total positive samples, 21 (35.6%) were detected positive for the toxin. Only two samples showed negative for GDH Ag screening but were found positive for the toxin. **Conclusion:** Immunochromatography (ICT) is a simple and cost-effective test but multiple algorithms of testing are required to increase the sensitivity and accuracy of the diagnosis.

**Keywords:** *Clostridium difficile*, Immunochromatography test, Nosocomial diarrhea.

**File:** <https://gisicon21.org/videos/1627041624.docx>

### E Poster Exhibition

**Association between Variceal Bleed and *Helicobacter pylori* Infection in Patients with Cirrhosis with Portal Hypertension: A Cohort Study**

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DOI: 10.5005/jp-journals-10068-3034A.39

**Background:** The objective of this study was to find the association of *H. pylori* in patients with variceal bleeding as well as rebleeding in cases of cirrhosis with portal hypertension. **Materials and methods:** This was a prospective cohort study for 2 years on patients with a diagnosis of bleeding esophageal varices. Patients with non-variceal causes of upper gastrointestinal bleeding, patients on proton pump inhibitors (PPI), and patients who received *H. pylori* eradication in the past were excluded. The primary outcome was a correlation between the prevalence of *H. pylori* and the incidence of bleeding/rebleeding from varices and with encephalopathy. The secondary outcome was a correlation between the site of bleeding with *H. pylori* infection and the association of pepsinogen I and II and the ratio of pepsinogen I/II with variceal bleeding and *H. pylori* infection. **Results:** A total of 159 patients were included in this study. A total of 78 out of 159 (49.05%) patients were *H. pylori*-infected. Patients with esophageal varices [adjusted risk (AR) = 0.7] and *H. pylori* infection (AR = 0.7) had a lower risk of variceal rebleeding. Among the patients negative for *H. pylori*, pepsinogen I was higher in patients with rebleeding (30.7 vs 14.4;  $p < 0.001$ ). Among *H. pylori*-positive patients, the ratio of pepsinogen I/II was higher in patients with rebleeding (2.9 vs 1.3;  $p = 0.023$ ). **Conclusion:** *H. pylori* infection was associated with a lower risk of rebleeding in cases of cirrhosis with portal hypertension. Irrespective of the status of

*H. pylori* infection, rebleeding was associated with more gastric acid output demonstrated by the level of pepsinogen.

**Keywords:** Gastric acid output, Hepatic encephalopathy, Pepsinogen.

**File:** <https://gisicon21.org/videos/1626087409.docx>

## E Poster Exhibition

### Seroprevalence of Leptospirosis in Patients Admitted to Tertiary Care Hospital

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DOI: 10.5005/jp-journals-10068-3034A.40

**Background:** Leptospirosis is a globally distributed zoonosis with varied clinical outcomes and multiorgan involvement in humans. There has been a rapid rise in the incidence of leptospirosis in North India. The present study is to evaluate the prevalence of leptospirosis, its seasonal distribution, and genderwise seropositivity. **Materials and methods:** Over a period of 1 year from July 2020 to June 2021, serum samples were collected from clinically suspected cases of leptospirosis. The serum samples were screened by the PAN-BIO IgM ELISA method for Anti-leptospira IgM antibodies. Seasonal distribution and genderwise seropositivity were also studied. **Results:** A total of 3,607 serum samples were received out of which 402 were positive. The prevalence of leptospira was 11.1%. Out of 402, 305 were male and 97 were female (24.1%). The disease showed a peak from July to October (43.2%). **Conclusion:** Interpretations based on gender distributions from surveillance data show male excess in leptospirosis cases. The majority of them presented between the months of July to October, coinciding with the monsoon and post-monsoon season in Punjab.

**Keywords:** IgM ELISA, Seropositivity, Zoonosis.

## E Poster Exhibition

### Spectrum of Chronic Liver Diseases in Northern India

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DOI: 10.5005/jp-journals-10068-3034A.41

**Background:** It is important to determine the epidemiological factors like etiology, age, sex, mode of clinical presentation, and pattern of development of complications of chronic liver disease, to design optimal and cost-effective preventive and treatment strategies for the same. **Aim and objective:** To determine the etiology of chronic liver disease in Northern India. **Materials and methods:** This was a prospective study done at Medical Gastroenterology Department, PGIMS, Rohtak conducted over a period of 10 years, i.e., 01.01.2011 to 31.12.2020, on 1,000 confirmed patients with chronic liver disease (CLD). **Results:** The most common etiology seen was alcoholic liver disease (48.9%), followed by nonalcoholic liver disease (26.4%), chronic hepatitis B (12.3%), chronic hepatitis C (9%), cryptogenic (2.7%), and autoimmune liver disease-related (0.7%). **Conclusion:** The present study reveals that alcohol is the most common cause of chronic liver disease in Northern India. The males of the middle age

group with a rural background are at significant risk of developing CLD, thus requiring immediate social and medical intervention.

**Keywords:** Alcohol, Hepatitis B, Hepatitis C, NAFLD.

**File:** <https://gisicon21.org/videos/1626582882.docx>

## E Poster Exhibition

### Compliance on Directly Acting Oral Antiviral in HCV Patients

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DOI: 10.5005/jp-journals-10068-3034A.42

**Background:** Chronic hepatitis C is one of the most common causes all over the world for causing cirrhosis of the liver and thus requiring liver transplantation. The availability of oral directly acting antiviral for treatment in India since 2015 has changed the scenario due to its good compliance among the patients. **Aims and objectives:** To determine the compliance among patients who have been treated with directly acting oral antiviral drugs for hepatitis C (Sofosbuvir 400 mg, Daclatasvir 60 mg, Velpatasvir 100 mg). **Materials and methods:** It was a prospective study conducted over a period of 5 years from 01.01.2016 to 31.12.2020. Out of a total of 4,000 patients with chronic HCV, 570 patients pre-therapy HCV RNA was not detected and 130 patients went for alternative medications and hence were excluded from the study. The remaining 3,300 confirmed patients of chronic hepatitis C who were started on treatment with oral antiviral drugs were followed till they completed their treatment. Out of these 3,300 patients, 10 cirrhotic patients died during their course of treatment, hence in the final analysis, 3,290 patients were included. **Results:** Only 10 patients out of a total pool of 3,290 left medicines due to side effects, thus a high compliance rate of 99.69% was achieved.

**Keywords:** Chronic HCV, Compliance, Oral antivirals.

**File:** <https://gisicon21.org/videos/1626583842.docx>

## E Poster Exhibition

### Study on *Vibrio* and *Aeromonas* in Raw Fish Samples

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DOI: 10.5005/jp-journals-10068-3034A.43

**Aim and background:** Fish is a source of good quality protein, it also provides Omega 3 fatty acids. Fish are a highly perishable product so maintenance of quality is very important. Fish contamination is linked with water quality, personnel, and processing tools. *Aeromonas* spp. and *Vibrio* spp. are gram-negative bacteria and commonly found in aquatic environments, but *Vibrio* spp. is widespread in seawater. *Aeromonas* spp. can grow in freezing temperature. Infections in humans are related to raw or undercooked fish. A detailed study about potential pathogens from fish is hence of public health significance. **Materials and methods:** The study was conducted in a Public Health Institute to ascertain the prevalence of pathogenic bacteria in fish scales, with aim of isolating and identifying them from raw fish. Isolates were identified by phenotypic and biochemical characteristics. An antibiotic susceptibility test was done for each isolate. **Results:** Contamination rate for *Aeromonas* spp. was 11% and for *Vibrio* spp. 10% among 100 samples. Both genera were mostly susceptible to

## ABSTRACTS

tetracycline and cotrimoxazole and 58% of *Aeromonas* spp. were resistant to azithromycin. Most of the markets are open. Maintaining good hygiene at markets is required. The sellers were informed individually about contamination and consequences. **Conclusion:** The evaluation of samples for the presence of pathogenic bacteria holds importance as fish are widely consumed and a good source of protein and draws attention towards the food-borne diseases as they can be of huge public health concern.

**Keywords:** *Aeromonas*, Antibiotic sensitivity, Culture, Fish, *Vibrio*.

**File:** <https://gisicon21.org/videos/1624895844.docx>

### E Poster Exhibition

#### A Rare Case of Meningitis in An Infant Due to *Salmonella* Paratyphi B: Case Report

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DOI: 10.5005/jp-journals-10068-3034A.44

**Introduction:** Enteric fever is most commonly seen in the age group of 5 to 15 years. Here, we are presenting a case of pyogenic meningitis caused due to infection with *Salmonella* Paratyphi B in a 2-month-old prematurely born twin. **Case description:** The baby was on formula feed prepared with well water. The baby was brought to the hospital with a history of convulsions 5 days after the episode of diarrhea. CSF and blood samples were sent for culture, from which *Salmonella* Paratyphi B was isolated. The organism was sensitive to all the antibiotics tested. The surveillance cultures failed to isolate the same. **Discussion:** *Salmonella* meningitis is very rare in infants. It accounts for about <6% of cases of meningitis, with long-term neurological sequelae seen in 47%. As there are no specific clinical features to diagnose, meningitis due to *Salmonella* is one of the important differential diagnoses to be kept in mind when the infant is on formula feed presenting with convulsions. In suspected sepsis and meningitis cases, prompt blood culture should always be sent before the start of antibiotics along with CSF culture. Exclusive breastfeeding should be followed to prevent faeco-oral transmission in infants <6 months of age.

**Keywords:** Meningitis, Infant, *Salmonella* Paratyphi B.

**File:** <https://gisicon21.org/videos/1625042074.docx>

### E Poster Exhibition

#### Prevalence Study of *Helicobacter pylori* Infection in Patients with Metabolic Syndrome and Its Correlation with Various Components of Metabolic Syndrome

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DOI: 10.5005/jp-journals-10068-3034A.45

**Aim and background:** To study the relationship of *Helicobacter pylori* infection with various components of metabolic syndrome (MetS). **Materials and methods:** A cross-sectional observational study was conducted on patients with MetS, from September 2019 to May 2020. Patients of age 18 years and with dyspeptic symptoms

were screened for MetS. Total 100 participants underwent upper gastrointestinal endoscopy with biopsy for *H. pylori* detection and rapid urease test. Patients with CKD, cirrhosis of liver and active malignancy, and those on chronic PPI therapy were excluded. The patients were divided into two groups—"A". With *H. pylori* infection B. Without *H. pylori* infection and statistical tests were applied with a CI of 95%. A—"p" value of <0.05 was considered as statistically significant. **Results:** Mean age of the patients was  $49.81 \pm 11.10$  years. There were 69 females and 31 males. A total of 41 (41%) patients tested positive for *H. pylori* by RUT and on histopathology. Tobacco addiction, high FBS, PPBS, and HbA1c and low HDL values were statistically significantly associated with *H. pylori* positivity. Multiple logistic regression analysis for studying the association of various components of metabolic syndrome and *H. pylori* infection was done which showed that high waist circumference, cholesterol, TG, FBS, and low HDL were significantly associated with *H. pylori* infection. **Conclusion:** Patients with MetS are prone to have *H. pylori* infection and significantly high blood sugar levels and low HDL levels compared with *H. pylori* negative patients. Therefore, *H. pylori* infected MetS patients may be predisposed to developing diabetes and develop CAD in the future.

**Keywords:** Metabolic syndrome, *Helicobacter pylori*.

**File:** <https://gisicon21.org/videos/1625588622.docx>

### E Poster Exhibition

#### Intestinal Amoebiasis: A Masquerader

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DOI: 10.5005/jp-journals-10068-3034A.46

**Aim and background:** *Entamoeba histolytica* is a pathogenic protozoan endemic in the Indian subcontinent and can have a protean presentation. We present a case series of four patients who presented with isolated bleeding per rectum in whom intestinal amoebiasis was not initially suspected. The diagnosis was established after colonoscopy and biopsy. **Results:** The first case was a 7-year-old male child who presented with bleeding per rectum and was suspected to have a juvenile rectal polyp. The second case was a 72-year-old female with ischemic heart disease who presented with bleeding per rectum and was suspected to have a diverticular bleed or bleeding from angioectasia or ischemic colitis. The third case was a 69-year-old male who was suffering from COVID-19 infection, was on steroids, and developed bleeding per rectum. The initial diagnosis was ischemic bowel disease. The fourth case was a 39-year-old male who presented with isolated bleeding per rectum. Imaging was suggestive of ileocolonic tuberculosis or Crohn's disease. The diagnosis was established in all four cases after ileo-colonoscopy and histopathology. On colonoscopy, all four patients had cecal ulcerations. Two had additional rectal ulcerations, while one had additional terminal ileal ulceration and one had ulcerations throughout the colon including the rectum. Histopathology showed typical amoebic ulcers with trophozoites of *Entamoeba histolytica*. All four patients recovered with metronidazole therapy. **Conclusion:** Intestinal amoebiasis can be a great masquerader and should be considered



in the differential diagnosis of patients presenting with isolated bleeding per rectum in endemic countries like India.

**Keywords:** Bleeding per rectum, *Entamoeba histolytica*, Intestinal amoebiasis.

**File:** <https://gisicon21.org/videos/1627059413.docx>

## E Poster Exhibition

### To Study the Microbiological Profile of Bile Fluid in a Tertiary Care Hospital

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DOI: 10.5005/jp-journals-10068-3034A.47

**Aim and background:** Bacterial infection of the biliary tract may cause severe inflammatory response or sepsis. Cholecystitis and cholelithiasis are the most common diseases affecting the gastrointestinal tract. An immediate bile culture and appropriate antibiotic administration are important to control the biliary tract infection. The present study aims to evaluate the microbiological profile of bile fluid of patients admitted to a tertiary care hospital. **Materials and methods:** In this retrospective study, bile fluid samples were obtained taking all aseptic precautions and were processed using the automated blood culture system (Bac-T-Alert). 0.5 to 2 mL of the sample was inoculated into blood culture bottles. All positive bottles were sub-cultured on blood agar and MacConkey's agar plates. Final identification and AST were done by an automated VITEK-2 system. **Results:** During the 12-month study period, 77 bile fluid samples were received in the department. Males (57.4%) were more commonly involved than females (42.5%). Growth was observed in 47 (61%) samples. Gram-negative organisms were predominant (78.7%) when compared with gram-positive organisms (14.8%). The most common organism isolated was *E. coli* (42.5%) followed by *Pseudomonas* spp. (17%), *Klebsiella pneumoniae* (12.7%). Gram-negative organisms were mostly resistant to cotrimoxazole, ampicillin, and amoxicillin-clavulanic acid. **Conclusion:** Microbiological analysis of bile is a valuable diagnostic tool that aids to determine the pathogenic organisms and their antibiotic susceptibility pattern which will help in better management of the patients.

**Keywords:** Antimicrobial susceptibility, Biliary tract infections, Gram-negative bacteria.

## E Poster Exhibition

### To Study Bacteriological Profile of Isolates from Intra-abdominal Fluids of Patients Admitted in a Tertiary Care Hospital

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DOI: 10.5005/jp-journals-10068-3034A.48

**Aim and background:** The pathogenic bacteria may invade and infect the sterile abdominal fluids like peritoneal, ascitic, pancreatic, bile leading to high morbidity and mortality. This study was undertaken to know the bacteriological profile of various isolates

obtained from samples of abdominal fluids received from patients admitted to a tertiary care hospital. **Materials and methods:** This retrospective study was conducted from January 2020 to December 2020 in the Department of Microbiology, Dayanand Medical College and Hospital, Ludhiana. A total of 1,293 samples of abdominal fluids from a patient (irrespective of age and sex) received in our laboratory were processed using Automated Blood Culture System (BACTEK 9420/BACT-ALERT). Identification and antimicrobial susceptibility were done by the VITEK-2 system as per CLSI guidelines. **Results:** Out of the total samples received 101 (7.8%) were culture positive. In this study, the predominant organism was *Klebsiella* spp. (44.5%) followed by *Acinetobacter* spp. (7.9%) and *Burkholderia* spp. (5.9%). *Klebsiella* spp. obtained were resistant to aminoglycosides, cephalosporins, quinolones, as well as carbapenems. Out of them, approximately 80% were carbapenemases and 23% were extended-spectrum beta-lactamases (ESBL) producers. **Conclusion:** As the isolates were highly resistant to most antimicrobial drugs, therefore accessing the bacteriological and antimicrobial profile is necessary. This is extremely vital so that life-threatening infections can be effectively treated and further development of antimicrobial resistance can be prevented.

**Keywords:** Antimicrobial sensitivity, Automated blood culture system, Intra-abdominal fluids.

**File:** <https://gisicon21.org/videos/1627043311.docx>

## E Poster Exhibition

### Seroprevalence of Hepatitis A and Hepatitis E in a Tertiary Care Hospital

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DOI: 10.5005/jp-journals-10068-3034A.49

**Aim and background:** Hepatitis A virus (HAV) and hepatitis E virus (HEV) are both enterically transmitted, resulting in acute viral hepatitis (AVH) in developing countries having inadequate sanitary conditions. This study is undertaken to determine the trends of Hep A and Hep E in a tertiary care hospital so that appropriate management of cases as well as prevention can be planned. **Materials and methods:** Over 6 months (October 2020 to March 2021), serum samples were collected from clinically suspected cases of hepatitis. The serum samples were screened for IgM anti-HAV and IgM anti-HEV. Age group-wise and genderwise seropositivity of hepatitis A and E and coinfection were studied. **Results:** Out of a total of 1,018 samples screened, 782 samples were of >18 years of age group and 236 were of <18 years of age group. Out of 782 samples, 28 were positive for HEV and 7 were positive for HAV. The percentage positivity of Hep E in >18 years was 3.6% and Hep A in >18 years was 0.1%. Out of 236 samples, 2 were positive for HEV and 5 were positive for HAV. Males outnumbered females in both age groups. **Conclusion:** The prevalence of HEV was more than HAV in enterally transmitted viruses, making them a major public health problem in our area. Adequate supplies of safe drinking water and proper disposal of sewage, combined with personal hygiene practices can reduce the spread of enteric hepatitis.

**Keywords:** Enterally transmitted viruses, Hepatitis A, Hepatitis E, Seroprevalence.

E Poster Exhibition

**Spectrum of Primary Gastric Lymphoma and its Intimate Association with *H. pylori*: A Series of 30 Patients from Northern India**

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DOI: 10.5005/jp-journals-10068-3034A.50

**Aim and background:** Primary gastric lymphoma (PGL) is less commonly reported in India. Since gastric cancer is a relatively less common malignancy in northern India, the possibility of PGL being less common in this region cannot be excluded. However, another possibility could be under-reporting due to a lack of adequate diagnostic workup and awareness. **Materials and methods:** During 12 years (2000–2012), data of gastric neoplasm in a teaching institute were retrospectively analyzed to know (i) the frequency of PGL among patients with gastric neoplasm, (ii) their demographic and clinical profile, and (iii) the diagnostic procedures needed for the diagnosis. **Results:** 30/324 (9.2%) patients (median age 56, range 25–72, 73.3% male) with gastric neoplasm had PGL. 40% of them had *H. pylori* infection (2/3 tests positive). Most presented with dyspepsia with or without weight loss (9, 30%); others presented with gastric outlet obstruction ( $n = 7$ , 23.3%), upper gastrointestinal bleeding ( $n = 5$ , 16.7%), dysphagia ( $n = 4$ , 13.3%), malignant ascites ( $n = 3$ , 10%), and other ( $n = 2$ , 6.7%). In most (60%), diagnoses could be established on endoscopic biopsy while in 40%, surgical resection was required. The endoscopic and surgical diagnosis groups were comparable in age (53.4 vs 52.7 years), sex (male 77.8 vs 66.7%), *H. pylori* (38.9 vs 16.7%), presentation with dyspepsia with or without weight loss (38.9 vs 16.7%), presentation with organic symptoms (61.1 vs 83.3%), and need for repeated endoscopic biopsies before conclusive diagnosis was established (12.5 vs 33.3%). **Conclusion:** The study demonstrates the comparatively high frequency of PGL in this population (9.2%) and confirms the intimate association of *H. pylori* infection (40%). PGL should always be considered in the differential diagnosis of gastric malignancy.

**Keywords:** *H. pylori*, Primary gastric lymphoma, PGL.

E Poster Exhibition

**Intestinal Tuberculosis with Entero-enteric Fistula: A Case Report**

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DOI: 10.5005/jp-journals-10068-3034A.51

**Aim and background:** Entero-enteric fistula is a rare presentation of intestinal tuberculosis and is much common with inflammatory bowel disease (IBD). **Case description:** A 38-year-old male with a history of chronic abdominal pain and altered bowel habit with a significant weight loss for 2 years. He was evaluated elsewhere earlier and diagnosed with intestinal tuberculosis. At that time, he had ileal ulcers on colonoscopy. Biopsy from ulcers showed multiple confluent non-caseating granulomas ( $>500 \mu\text{m}$ ) with positive TB-PCR. He was started on anti-tubercular therapy, however, compliance to therapy was poor and he took medicines for 3 weeks only. He had partial improvement in symptoms. After 2 months, he presented to us with decreased appetite, diarrhea, vomiting, and pain abdomen of 1-week duration. His repeat colonoscopy

showed ileal ulcer with biopsy showing non-caseating granuloma and negative GeneXpert. CT scan of the abdomen showed long segment thickening of ileal loops with mesenteric stranding. He was continued on ATT with strict adherence. After 2 weeks, he presented with pain abdomen and high spiking fever. He was started on an empirical broad-spectrum antibiotic while waiting for his lab reports. His COVID RT-PCR report and culture reports were negative. His repeat CT enterography revealed the possibility of pelvic small bowel inter-loop fistulation and small walled-off collection. The possibility of Crohn's was also suspected and he received iv steroids for 2 days. He was not responding to conservative treatment. The patient underwent exploratory laparotomy, which revealed long segment ileal stricture with ileo-ileal fistula. Peritoneal toileting and ileostomy were done after segmental resection. A surgical biopsy specimen revealed transmural ileal inflammatory changes with sparse granuloma. He remained well on follow-up and restoration of bowel continuity was planned after the completion of the course of ATT. **Conclusion:** Differentiating intestinal tuberculosis from Crohn's can be a daunting task at times. Although fistulas are commonly seen in Crohn's, very rarely intestinal TB can present as fistula.

**Keywords:** Anti-tubercular therapy, Entero-enteric fistula, Intestinal tuberculosis.

**File:** <https://gisicon21.org/videos/1625936456.jpg>

E Poster Exhibition

**Non-typhoid Salmonellosis: Infection and Antimicrobial Resistance Profile**

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DOI: 10.5005/jp-journals-10068-3034A.52

**Aim and background:** Non-typhoidal salmonellosis is one of the leading zoonosis in the world caused by non-typhoidal *Salmonella* (NTS). Human beings acquire this infection through the ingestion of contaminated food like eggs, meat, and unpasteurized cow milk. The clinical manifestations start with acute gastroenteritis that emerges within 12–72 hours after ingestion of food. With the growing antimicrobial resistance profile and the severity of invasive cases, there is a need to have an idea of the likely non-typhoidal salmonellae serovars and their presumptive antibiotic therapy to improve the outcome of the treatment. **Materials and methods:** *Study setting:* Enteric Diseases Division, Kasturba Medical College, Manipal. *Study design:* Prospective cross-sectional study. *Study period:* January 2015 to 2018 *Specimen Collection:* Stool samples were collected from patients with diarrhea admitted to Kasturba Hospital, Manipal, and Dr TMA Pai Hospital, Udupi. Stool samples were collected transported, processed according to the standard protocol of CDC. **Results:** Of the 1,599 diarrheal samples processed from January 2016 to June 2018, 55 isolates were found to be NTS showing a prevalence of 3.43%. *Salmonella* Oslo (17/55, 30.91%) was the prevalent serovar followed by *Salmonella* Typhimurium. Antimicrobial resistance was observed to ampicillin, ciprofloxacin (4/55, 7.27%), and cotrimoxazole (2/55, 3.64%). The age distribution showed a predominance of patients above 40 years to be infected with salmonellosis. **Conclusion:** The present study vividly summarizes the serovar profile and the significance of this neglected pathogen in this part of the country. Increasing resistance to antimicrobials such as ampicillin, amoxicillin, cephalosporins,



fluoroquinolones, and cotrimoxazole has been observed which are the treatment of choice for this infection. Thus, routine antimicrobial susceptibility tests for salmonellae must be carried out and then reported to prevent morbidity and mortality.

**Keywords:** Antimicrobial resistance, Non-typhoid Salmonellosis, Non-typhoidal *Salmonella*.

## E Poster Exhibition

### Antimicrobial Resistance Profile of *Helicobacter pylori* Clinical Isolates from Southern India

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DOI: 10.5005/jp-journals-10068-3034A.53

**Aim and background:** The resistance of antibiotics against *H. pylori* is a leading factor contributing to treatment failure. Several combination therapies have been developed to eradicate *H. pylori* but the most widely used treatment regimen is the use of at least two antibiotics with PPI, commonly referred to as triple therapy. Due to the increase in the acquisition of drug resistance, other combination quadruple regimens are recommended at present. Antibiotic resistance pattern for *H. pylori* is untracked in India and hence we aimed to provide the pattern of resistance to commonly used antibiotics. **Materials and methods:** A total of 374 dyspeptic patients presenting to the gastroduodenal endoscopy were recruited in this study, out of which 121 were culture positive and assessed for antibiotic resistance by MIC (agar dilution method) and results are interpreted as per EUCAST guidelines. **Results:** Endoscopic and histopathological examinations detected 83 (69%) patients with chronic gastritis, 32 (26%) with peptic ulcer, and 6 (5%) with intestinal metaplasia. The *H. pylori* was screened for antibiotic resistance, and the findings are shown. Thirty-four isolates (28%) were resistance to single antibiotics (MTZ, 22.3%; LEV, 3.3%; CLA, 2.4%). Forty-nine isolates (40.4%) were resistant to two antibiotics (MTZ + LVX, 35.5%; MTZ + CLR 4.9%), whereas 22 (18%) were resistant to three antibiotics (MTZ + CLR + LVX, 9.1%; MTZ + AMX + TET, 1.6%; MTZ + CLR + AMX, 0.8%; MTZ + LVX + AMX, 4.9%; MTZ + LVX + TET, 1.6%). Two of our strains were found to be resistant to four antibiotics (MTZ + CLR + LVX + TET, 1.6%). **Conclusion:** The study implies metronidazole and levofloxacin-based therapies are not useful for the first-line treatment of *H. pylori*-related infections.

**Keywords:** Antibiotic susceptibility, *Helicobacter pylori*, Minimum inhibitory concentration.

File: <https://gisicon21.org/videos/1626684146.pdf>

## E Poster Exhibition

### Gastric Mucormycosis: A Rare Complication of COVID-19 Infection

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DOI: 10.5005/jp-journals-10068-3034A.54

**Aim and background:** Mucormycosis is a rare opportunistic fungal infection primarily diagnosed in immunocompromised individuals. Multiple sites can be affected including pulmonary, rhinocerebral,

skin and soft tissues, and rarely gastrointestinal system. The stomach is the most commonly involved organ in GIT. We present a case of gastric mucormycosis in a 60-year-old female. **Case description:** A 60-year-old female with no comorbidities complained of mild fever and sore throat. Three days later, she was tested positive for SARS-CoV-2 infection. On day 6, she was hospitalized in view of mild breathlessness. Her HRCT chest showed a CT severity index of 12/25 and was shifted to COVID ICU. She was started on antibiotics, antivirals, steroids, and low molecular weight heparin. She had a gradual recovery and was shifted to non-COVID ICU. On day 25 of her illness, she had a massive episode of hematemesis resulting in hypotension and shock. She was resuscitated with intravenous fluids and vasopressor supports. Emergency upper gastrointestinal endoscopy was done which showed sloughed gastric mucosa with eschar in the body and antrum. Multiple biopsies were taken which showed mucormycosis. Despite aggressive management, the patient succumbed to death in the next 12 hours. **Discussion and conclusion:** Gastric mucormycosis is a fatal fungal infection in immunocompromised patients. It requires a high index of suspicion and especially in this COVID pandemic, vigilance is required to diagnose such cases. A biopsy is a gold standard for diagnosis and immediate institution of antifungals like amphotericin B and posaconazole is lifesaving therapy. The surgical resection is warranted in poor response to antifungal therapy.

**Keywords:** COVID-19, Gastric, Mucormycosis, Hematemesis.

File: <https://gisicon21.org/videos/1626100633.jp>

## E Poster Exhibition

### Association of *Clostridioides difficile* Infection with Specific Malignant Conditions

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DOI: 10.5005/jp-journals-10068-3034A.55

**Aim and background:** Patients with concomitant diseases, particularly malignancies, are at great risk for *Clostridioides difficile* infection (CDI). However, very little is known about the association between malignancy and CDI. We evaluated the association of CDI in patients with different kinds of malignancies in comparison to control patients. **Materials and methods:** Patients ( $n = 1,022$ ) with specific malignancies (496 patients; M/F = 328/168), subgrouped as (i) adenocarcinoma (AC), (ii) hematological malignancies (HM), (iii) multiple myeloma (MM), (iv) pediatric solid tumor (PST) and controls (526 controls; M/F = 325/201) without any specific diseases were enrolled in the study. Laboratory data of the patients were reviewed for demographics, antibiotic exposure, clinical symptoms, and fecal *C. difficile* toxin (CDT) assay. **Results:** Of 1,022 patients, 805 received antibiotics. CDT was positive in 168 (80.0%) of those receiving antibiotics and in 42 (20.0%) not receiving antibiotics ( $p < 0.001$ ). Bloody diarrhea was present in 12.4% with CDT status. CDI among patients with malignancy (21.2%) and controls (20.0%) was insignificant ( $p = 0.689$ ). CDT was positive in 7/25 PST (28.0%), 24/96 AC (25.0%), 71/332 HM (21.4%), and 3/43 MM (7.0%) patients, but was not significant ( $p > 0.05$ ). Correlation of different malignant conditions with control and among themselves showed male gender in AC ( $p = 0.039$ ) and HM ( $p = 0.003$ ), antibiotic exposure in MM ( $p < 0.001$ ) and fever in PST and HM subgroups to be significant

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( $p < 0.001$ ). **Conclusion:** CDT positivity was higher in males and in patients exposed to antibiotics. No significant association of CDT was seen in malignant patients compared with the controls, though patients in PST and AC subgroups were more prone to CDI.

**Keywords:** Adenocarcinoma, *Clostridioides difficile* infection, Hematologic malignancy, Multiple myeloma, Pediatric solid tumor.  
**File:** <https://gisicon21.org/videos/1626242514.docx>

### E Poster Exhibition

#### Mucosal Biofilms of *Candida* Species and Importance

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DOI: 10.5005/jp-journals-10068-3034A.56

**Aim and background:** Interactions between host mucosal surfaces and microbial flora are key to host health, defense, and infection. Mucosal surfaces are exposed to microorganisms as commensals and must be capable of distinguishing between those that are beneficial or avirulent and those that will invade and cause disease. Colonization and slime production leading to biofilm formation has been implicated as a potential virulence factor of some *Candida* species. Detection of slime production by the *Candida* species may be useful for clinical decisions. Our study aims to demonstrate of site-specific role of *Candida* species and the importance of biofilm formation by isolation, identification, and estimation of slime production by *Candida* species isolated from mucosal layers of the oral cavity and the intestine. **Materials and methods:** The samples were collected from patients with stomatitis and diarrhea. The samples were cultured and speciation was carried out. Biofilm production was estimated and the site-specific role was assayed. **Results:** Among the various species of *Candida* that were isolated, the most common species isolated from stomatitis was *C. albicans*, and diarrhoea was *C. krusei*. Strong biofilm production was found in intestinal isolates than oral isolates. The biofilm formation by *C. albicans* was less frequent than that by non-*C. albicans*. **Conclusion:** Our study showed that *Candida* colonisation and biofilm formation was site-specific. The ability to colonize and to form biofilms is intimately associated with the ability to cause infection and as such should be considered as an important virulence determinant during candidiasis.

**Keywords:** Biofilm, *Candida*, Colonization, Slime, Mucosal layer.

**File:** <https://gisicon21.org/videos/1626266045.docx>

### E Poster Exhibition

#### Natural History of Non-severe COVID-19 in Patients with Liver Disease

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DOI: 10.5005/jp-journals-10068-3034A.57

**Aim and background:** COVID-19 has emerged as a major public health crisis. The severity of COVID-19 and the presence of

underlying comorbidities are key determinants of prognosis. Usually, non-severe COVID-19 is associated with relatively good outcomes. However, the natural history of non-severe COVID-19 in patients with liver disease has not been well studied. We report our experience with non-severe COVID-19 in patients with liver disease. **Materials and methods:** Patients with liver disease and positive COVID RT-PCR presenting to the emergency department at a tertiary care center were prospectively recruited from August to November. Patients with severe COVID-19 were excluded. All patients were followed up for 30 days. **Results:** Out of 52 patients with COVID-19 and underlying liver disease, 6 (11.53%) presented with severe COVID-19 and were excluded from the analysis. Out of the 46 patients with non-severe COVID-19, 39 (84.78%) had underlying cirrhosis and 6 (13.04%) were post-liver-transplant (LT). The median age of our cohort was 45 years [35–56.5]. Majority were males ( $n = 38$ ; 82.60%). Comorbidities were present in 37 patients [80.4%; 12 (32.43%) diabetes-mellitus; 5 (13.51%) hypertension; 9 (24.32%) obesity; 7 (18.91%) chronic kidney disease; 2 (5.4%) coronary artery disease, and 2 (5.4%) obstructive airway disease]. Most of the patients were admitted with liver-related complaints [22 (47.82) acute-on-chronic liver failure; 15 (32.6%) acute decompensation; 1 (2.17%) acute liver failure; 1 (2.17%) post-LT rejection, and 1 (2.17%) post-LT non-anastomotic stricture with acute cholangitis]. Fourteen patients (30.43%) were symptomatic for COVID-19. Thirty-day mortality was 52.2%. COVID-19 related deaths were seen in only 8 patients (34.78%). A 30-day survival in patients with ACLF was significantly worse than those without ACLF (18.2 vs 75%,  $p < 0.001$ ). On multivariate analysis, younger age, high serum bilirubin, and elevated D-dimer were significant predictors of mortality. **Conclusion:** Non-severe COVID-19 is associated with high 30-day mortality in patients with cirrhosis and ACLF. Intriguingly, the presence of comorbidities did not influence survival.

**Keywords:** Acute-on-chronic liver failure, ACLF, COVID-19, Coronavirus, Cirrhosis.

### E Poster Exhibition

#### Rare Presentation of Hookworm Infection

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**Aim and background:** Hookworm is a pan-global, easily treatable worm infestation, commonly seen in underdeveloped countries, manifests with variable presentations and proper diagnosis and treatment can effectively reduce morbidity associated with it. It is characterized by iron-deficiency anemia and hypoalbuminemia. In selected cases, the worms can be seen exiting the human body from natural orifices, mostly the anal canal but rarely it can be seen crawling out from nostrils, oral cavity, or umbilicus. **Case description:** A 18-year-old female, a known case of fully treated Koch's chest 12 years back also had a history of the passage of two worms per rectally 10 years back. Now she presented with intermittent pain abdomen for the last 1 year and a single episode of a small amount of hematemesis 2 months back which was symptomatically treated as upper gastrointestinal endoscopy done at that time was normal. Later she developed passage of frothy fluid with a feculent smell from the umbilicus. Subsequently, her pain abdomen increased and

localized periumbilical was associated with anorexia followed by passage of worms from the umbilicus along with itching. She also gave a history of irregular menstrual cycles. **Conclusion:** Hookworm passage from various natural openings of the body like the oral cavity, anal canal, nostrils, and umbilicus has been documented in the literature but this is the first case report in which multiple live hookworms passage from umbilicus is being reported.

**Keywords:** Feculent discharge, Hookworm, Hematemesis, Umbilicus.

**File:** <https://gisicon21.org/videos/1626582730.docx>

## E Poster Exhibition

### Clinical Profile of Cholangitis in a Tertiary Care Center in North India and Role of Serum Procalcitonin in Prediction of Severe Cholangitis

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**Aim and background:** Cholangitis is one of the commonest emergencies encountered by gastroenterologists which in most cases warrant drainage of the biliary system. Serum procalcitonin is an important biomarker of cholangitis with the potential to guide a therapeutic decision. **Materials and methods:** We did a retrospective analysis of prospectively maintained data of patients admitted in the hospital from March 2018 to September 2019 with a diagnosis of acute cholangitis based on Tokyo 13 guidelines (TG 13). All the demographic parameters, biochemical and hematological parameters, and the result were recorded. **Results:** Forty-one patients were admitted to our hospital with a mean age of  $51.07 \pm 7.99$  years, among which 58.5% (24/41) were females with the most common etiology being choledocholithiasis (31.7%). Fever, jaundice, and abdominal pain were seen in 78% (32/41), 73.3% (30/41), and 76.9% (30/41) of patients, respectively. Organ failure was seen in 29.3% (12/41) of patients with the most common organ failure being acute kidney injury. Mild, moderate, and severe cholangitis as per TG 13 was seen in 43.9, 26.8, and 29.3% of patients, respectively. Elevated procalcitonin levels were associated with severe disease (66.7 vs 26.5%,  $p = 0.05$ ). 43.9% of patients were managed conservatively while the majority of remaining needed endoscopic intervention. **Conclusion:** In this retrospective analysis, we showed that the most common etiologies in our setup was choledocholithiasis. Raised serum procalcitonin levels were significantly associated with increased severity of cholangitis.

**Keywords:** Cholangitis, Procalcitonin, Tokyo grading.

**File:** <https://gisicon21.org/videos/1626588584.png>

## E Poster Exhibition

### Non-fluoroscopic Endoscopic Dilatation of Tubercular Gastrointestinal Strictures: Efficacy and Outcomes

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**Aim and background:** Tuberculosis of the gastrointestinal tract is an important form of extrapulmonary tuberculosis with diverse clinical presentations. The luminal form of gastrointestinal tuberculosis can have ulcerative, hypertrophic, and stricturing variants. Strictures due to gastrointestinal tuberculosis are typically described as short and concentric and may involve the colon, ileo-cecum, small intestine, or the gastroduodenal area. Gastrointestinal tuberculosis may result in persistent symptoms even after anti-tubercular therapy (ATT) and may require surgical intervention. Data on the use of endoscopic dilatation for the management of such disease are scarce. **Materials and methods:** We performed a retrospective analysis of a database of patients who underwent endoscopic balloon dilatation for suspected or proven gastrointestinal tuberculosis. The analysis included the site of involvement, technical success, clinical success (response), relapse, and requirement of surgery in these patients. **Results:** Out of 34 patients (52.9% males, mean age  $31.9 \pm 12.9$  years), initial technical success was achieved in 30 (88.2%) patients. Initial clinical success was achieved in 28 (82.3%) patients. The median number of dilatation sessions required to obtain symptomatic relief was 2.5 (1–5) per patient. Two patients with initial clinical success had a recurrence of symptoms over a follow-up of 1 year, out of which one patient was managed with repeat endoscopic balloon dilatation successfully. Of 30 patients with technical success, 16 (53.4%) were still on ATT when they underwent dilatation while two were in intestinal obstruction. Eventually, seven patients required surgical intervention for various reasons. **Conclusion:** Non-fluoroscopic endoscopic balloon dilatation is an effective and safe modality for symptomatic tuberculous strictures of the gastrointestinal tract.

**Keywords:** Gastrointestinal tuberculosis, Strictures, Surgery.

## E Poster Exhibition

### A Rare Case of Actinomycosis in Sigmoid Colon

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**Case description:** An 81-year-old woman presented herself in our emergency department with lower abdominal pain. In the clinical examination, the abdomen was peritonitis. The laboratory analysis showed increased WBC and C-reactive protein. A CT of the abdomen was done and showed multiple abscesses along the sigmoid colon. The patient was operated on with the presumed diagnosis of sigmoid diverticulitis with macroabscess and a colectomy with

## ABSTRACTS

Hartmann operation was performed. The pathological report showed an actinomycosis with purulent granulomatosis and filamentous bacteria on the edge of the mass. The patient was given penicillin G intravenously for a duration of 4 weeks, based on the recommendations of our microbiologist. The treatment resulted in full clinical recovery. *Actinomyces* belong to the normal oral, genital, and intestinal flora. Abscess formation because of actinomycosis has been rarely reported and could mimic multiple disease processes.

**Keywords:** Actinomycosis, Diverticulitis, Sigmoid colon.

### E Poster Exhibition

#### Transcystic Laparoscopy Guided Cholangioscopic Holmium Laser Lithotripsy of Large Impacted Common Bile Duct Stone

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The five patients who presented with obstructive jaundice and abdominal pain due to a 12–25 mm obstructing impacted CBD

calculus within the mid or distal common bile duct were taken in the study. One trial of endoscopic retrograde cholangiopancreatography (ERCP) removal was unsuccessful in all five patients due to the large duodenal diverticula and impacted nature of the large stone, and surgical exploration was planned for CBD stone removal with cholecystectomy. Trans-cystic duct ureteral access sheath was placed through a 5 mm right hypochondrial port which could allow Flexi-ureteroscope introduction by Urologist to directly visualize CBD stone and evaluation of the remaining biliary tract. Holmium laser lithotripsy was performed with successful small fragmentation of the stones and clearance by using multiple basket sweeps, or flushing into duodenum without any complication. An antegrade placement of double pigtail CBD stent of 7 Fr and 7 cm size was done in all cases before suturing the cystic duct. The indications were surgically altered anatomy (large duodenal diverticula) and impacted CBD stone in three of the cases and impacted stone alone in mid-CBD in the remaining two cases that did not allow access through ERCP.

**Keywords:** Holmium laser lithotripsy, Impacted CBD stone, Transcystic.

**File:** <https://gisicon21.org/videos/1627028083.docx>