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**Background:** Complicated intra-abdominal infections (cIAIs) have been described by the surgical society (SIS), and the Infectious Disease Society of America (IDSA), as the infection of an abdominal organ that has spread to other abdominal structures. These infections range from uncomplicated appendicitis to fecal peritonitis. The leading site of pathology in our country, in contrast to western countries is gastro-duodenal perforations and enteric perforations whereas it is colonic perforation in western countries.

**Methods & Materials:** The present study was planned to determine the susceptibility profile of the various isolates from patients with cIAIs getting managed at Pt. B.D. Sharma, Post Graduate Institute of Medical Sciences, Rohtak, a tertiary level health care providing facility in northern region of India. The patients were selected based on pre-determined inclusion and exclusion criteria. Detailed clinical work-up and investigations were done at the time of admission. The peritoneal fluid/pus was sent for culture and sensitivity at the time of admission. The isolates were later identified following standard protocol and their antimicrobial susceptibility was determined by Kirby Bauer disk diffusion method, and the treatment where required was changed accordingly.

**Results:** A total of 114 intra-peritoneal fluid samples were submitted for microbiological evaluation. Out of these, 60 (52.6%) samples were sterile. A total of 57 aerobic bacterial isolates were recovered from 54 peritoneal fluid/pus samples. *Escherichia coli* (64.8%) was the commonest isolate recovered followed by *Klebsiella* spp. in 12.2% of cases among the gram negative isolates. *Enterococcus* spp. was the commonest (41%) Gram positive isolate. Cefixime (93%) was the most effective antimicrobial agents in *Escherichia coli* followed by cefepime (88%) and co-amoxiclav (86%). Co-amoxiclav was the most effective drug in case of *Klebsiella* isolates (95%), followed by cefixime and ciprofloxacin (81%).

**Conclusion:** The antimicrobial susceptibility profile of bacterial isolates causing such infections can influence the final outcome in these conditions. Knowledge of the antimicrobial susceptibility profiles of the prevailing isolates can help in designing the empiric therapy for the cIAIs, which can influence the outcome of these infections favorably.

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