

Infectious Diseases Conf 2019: Resistogram pattern of Escherichia coli isolated from various clinical samples in & around Kanchipuram- Sivasankari Murugan- Meenakshi Medical College Hospital and Research Institute, India

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Escherichia coli (E. coli) bacteria normally live in healthy human and animal intestines. Most E-varieties. Coli are harmless or cause rather short diarrhea. But a couple especially nasty strains, like E. Coli O157: H7, can cause severe cramps of the abdomen, bloody diarrhea and vomiting. You might get exposed to E. Contaminated water or food coli particularly raw vegetables and undercooked ground beef. It is normal for healthy adults to recover from E infection. Coli O157 : H7 is more likely to develop a life-threatening form of kidney failure called hemolytic uremic syndrome within a week, but young children and older adults are more likely. Symptoms and signs E. Infection with coli O157: H7 typically begins three or four days after exposure to the bacteria, although you may become ill as soon as one day or more than a week later. Symptoms and signs include: Abdominal cramping, pain or tenderness, Diarrhea, Nausea and vomiting. Among the numerous strains E. Coli, just a few diarrhoea causes. One E-group. Coli — which includes O157: H7 — produces a potent toxin that damages the small intestine 's lining and can cause bloody diarrhea. You are forming an E. Infection of the coli when you eat this bacterial strain. Unlike many other bacteria which cause illness, E. Coli can cause infection even if you only ingest small amounts of it. Because of this, E can sicken you. Coli from consuming a slightly undercooked hamburger or drinking water from a mouthful of dirty liquid. Potential causes of exposure include infected food or water, and contact between person and person. E. Coli bacteria can travel easily from one person to another, especially when infected adults and children are not washing their hands properly. Young children in the family with E. Coli infection is particularly likely to be acquired by itself. There have also been outbreaks among children visiting petting zoos, and at county fairs in animal barns. Most stable adults have recuperated from E. Coli disease within a week. Some people — especially youngsters and older adults may develop a life-

threatening form of kidney failure called hemolytic uremic syndrome. Neither vaccine nor medication can protect you against E. Coli-based disease though potential vaccines are being investigated by researchers. To lower the chances of exposure to E. Coli, avoid hazardous foods and watch out for contamination. Practicing safe food behaviors can reduce your chances of developing an E-related bowel infection. Coli. Coli. These include: Clean fruits and vegetables carefully, Cross-contamination avoidance by using clean utensils, pans and serving platters, Keep raw meat away from other foods and other clean items, Do not defrost meat at the counter, Always defrost meat in fridge or microwave, Immediately refrigerate leftovers, To only drink pasteurized milk products (to prevent raw milk), Do not prepare foods if you experience diarrhea. You should also make sure all of the meat is properly cooked. The U.S. Department of Agriculture provides guidelines for cooking meat and poultry at proper temperatures to ensure killing of all bacteria. One of the easiest things you can do to guard against an E. Coli infection is about washing your hands regularly. Before handling, serving, or eating food you should wash your hands and especially after touching animals, working in animal environments, or using the bathroom. Practicing good hygiene and following guidelines on food safety can go a long way in reducing your risk of infection. Most people make full recovery within one week. About 10 per cent of people, however, are at risk of developing hemolytic uremic syndrome (HUS). Mostly these are young children, and older people. HUS is characterized by hemolysis, or a red blood cell breakup. This can lead to anemia, a low count of platelets and kidney failure. Blood clotting platelets clump together inside the narrow blood vessels of the kidneys, resulting in decreased blood flow or ischemia. Ultimately this will lead to kidney failure. Decreased platelets increase the risk of bleeding problems. Patients with these clots can also experience issues with the central nervous system (CNS), which affect the brain and the spinal cord. This

can result in seizures, paralysis, swelling of the brain and a coma. In 3 to 5 per cent of cases, it is fatal. HUS tends to cause acute kidney failure among infants and young children. HUS usually begins about five to eight days after the onset of diarrhea. It is a medical emergency, and requires treatment in the hospital. The doctor will recognise the signs, inquire about the symptoms and give a sample of stools to a laboratory for examination. The sample would need to be taken within 48 hours of beginning the bloody diarrhea.

E.coli is one of the main cause of nosocomial infection in humans. E.coli being one of the common organism causing hospital acquired infections exhibits ESBL production Causing resistant to Beta lactam group of drugs resulting in limited treatment options. Hence, this study was done to know the resistance pattern in E.coli and their virulence factors. **Materials and Methods:** Samples (urine, pus, sputum) were collected & processed as per standard protocols E.coli were isolated. Antibiogram done as per CLSI guidelines. ESBL & MBL screening done, Biofilm formation of E.coli was studied in correlation to antibiotic resistance. **Result:** 235 E.coli were isolated from various clinical samples. Out of 235, 148 (62.97%) showed resistance to ceftazidime & cefatoxime, 53 (22.55%) were ESBL producers, 19 (8.8%) showed resistance to imipenem, 32 (1.27%) were MBL producer. E.coli were resistant to nalidixic acid, 119 (50.6%) followed by Cotrimoxazole 98(41.7%), Ciprofloxacin resistance was 135 (57.6%) and MIC ranged from 8- 64 µg/ml. Among 235 E.coli isolates 169 (46.38%) were MDR of which 29 (12.34%) were strong biofilm producers. **Conclusion:** This study highlights that all isolated ESBL producers were resistant to 3rd Gen. cephalosporins. This increase in resistance to number of commonly used antibiotics shows the emerging drug resistance. In view of this, ESBL testing and MBL screening should be made as a routine testing which will help in the shuffling of antibiotics and for proper treatment and to prevent further development of bacterial drug resistance.