

عنوان مقاله:

Host Characteristics and virulence typing of Escherichia coli isolated from Septicemic and diabetic patients

محل انتشار:

دوازدهمین کنگره بین المللی میکروب شناسی بالینی ایران (سال: 1397)

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خلاصه مقاله:

Introduction: Escherichia coli are one of the most important bacteria that cause gastrointestinal and extra intestinal infections (ExPEC) such as septicemia, cystitis, pyelonephritis, and meningitis in newborns. The aims of this study were to evaluate the association of host and bacterial factors in diabetic patients with E. coli infections. **Materials and Methods:** Forty-two E. coli isolates were collected from septicemia and urinary tract infection in diabetic patients in Iran. The antibiotic susceptibility testing was conducted by disk diffusion method using 15 antibiotics. Phylogenetic grouping was performed by PCR according to the chuA, yjaA and TspE4.C2 genes. Serogroup typing with using the 12 O-antigen were analyzed by PCR. Twelve virulence genes (cdt, TcpC, KpsMTII, iutA, cnf1, hlyA, traT, ibeA, csgA, vat, sat and pic) were identified by PCR. **Results:** Diabetic patients had an age ranging from 24-83 years old. Resistance pattern was erythromycin (100%), amoxicillin (95.2%) and cefazolin (90.4%) and meropenem, imipenem, and phosphomycin were 100% susceptible. The B2 and D phylogroups are the most common strains were diabetic patients. 85.7% of E. coli causing septicemia in diabetic patients there have curli fimbriae. It was found that 38% of strains isolated from patients with diabetes possess antigens O1 and O75. So it can be concluded that traT and KpsMTII with csgA genes are the main reasons of sepsis in patients with diabetes. **Conclusion:** Serogroups O18, O25, and O75 belonged to B2 phylogroup and O1 and O2 were dominant in D phylogroup. The two phylogroup were present in 67% of the strains included in diabetics. E.coli carrying virulence factors csgA, KpsMTII, iutA, and traT exhibited a high prevalence were causing septicemia in diabetic patients. The choice antibiotics prescribed for patients with diabetic suffering the septicemia were phosphomycin, imipenem, and meropenem.

کلمات کلیدی:

Escherichia coli, diabetic patients, septicemia, serogroup, typing, virulence factor

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