

Title: PHENOTYPIC PROFILE OF THE VIRULENCE OF *Escherichia coli* ISOLATED FROM PATIENTS WITH RECTAL CANCER

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Escherichia coli is a commensal bacterium of the host's intestinal microbiota, and the virulence factors expressed for some strains are associated with several diseases including rectal cancer (RC). In this study, the phenotypic profile of virulence of *E. coli* strains from patients with rectal cancer was determined. Strains were obtained on MacConkey agar from fecal samples of 13 patients (23 strains) and 10 healthy (16 strains), and maintained on LB agar till the performance of the tests. All the strains produced catalase, indole and gas from glucose, but not H₂S nor hemagglutination. All the strains were susceptible to the human serum. 60.9% and 75% strains from CR and healthy patients, respectively, showed motility; 52% and 18.8%, respectively, were resistant to 60 °C, 30 minutes. 26.1% of the CR strains were resistant to 60 °C, 60 minutes. 93.8% and 87% of the strains, respectively, produced β-hemolysis. Strains were resistant, respectively, to ampicillin (17.4% CR and 17.4% healthy), streptomycin (8.7% and 8.7%), Trimethoprim (13% and 21.7%), Tetracycline (13% and 8.7%), azithromycin (4.3% and 8.7%), cephalothin (8.7% and 4.3%), and nalidixic acid (4.3% healthy), nitrofurantoin (4.3% healthy), and cefazolin (4.3% healthy). Five strains from healthy and four from CR produced bacteriocin, from these, only one healthy strain inhibited 82.6% CR and 47.8% healthy of the strains, and one strain from CR inhibited the growth of 69.6% CR and 43.5% healthy strains. Healthy and CR strains were resistant to > 32µg/mL of copper sulphate, nickel sulphate, cadmium sulphate, and lead sulphate. 18.8% strains from healthy and 4.3% from CR showed resistance to 16ug/mL Mercury bichloride. Resistance to ≤ 4 µg/mL silver nitrate was observed for all the strains. *E. coli* strains from rectal cancer showed a wide variety of phenotypic profiles, which could help in the virulence of the strains.

Key words: *Escherichia coli* phenotypic profile, rectal cancer, antibiotic resistance, bacteriocin, heavy metal resistance.