

S U M M A R Y

A total of 50 strains of Ps. aeruginosa were isolated from 235 patients examined in three different clinical sources (urinary tract infections 32 strains, septic wounds 13 and burns 5 strains) located at Benha University Hospital and General Hospital of Zifta, the latter hospital showed high frequency of isolation of Ps. aeruginosa (25 strains from 100 patients), while that of Benha University Hospital was 25 strains from 135 patients.

The isolated strains were identified & characterized and subjected to antibiotic sensitivity tests using; colimycin, gentamicin, cefotaxime, polymyxin - B, carbenicillin, tobramycin and amikacin, the percent of resistance were 74% - 50% - 42% - 38% - 26% - 12% and 10% respectively. All strains except 6 were resistant to one or more antibiotic. Using the technique of Gillies and Govan in typing of the isolated strains of Ps. aeruginosa by pyocin production, it was clear that 92% of the strains produce different pyocin types, the most frequent pyotypes

produced were 31 (6 strains), 17 and 49 (3 strains for each). Eight strains showed inhibition patterns which could not be classified according to this technique.

Twenty six pyocin types were produced and only six types represent the discriminatory ability. Strains of pyocin types 49, 25 and 73 were colimycin resistant and the majority of the pyocin types Nt - Uc - 31 and 17 were colimycin resistant. The most predominant pyocin types were among gentamicin resistant strains were Uc - 31 and Nt.

On the other hand, the six sensitive strains produced six different pyocin types, the pyocin types 31 (6 strains) and 25 (2 strains) were only restricted to strains recovered from Zifta General Hospital. The two strains isolated from burns at Benha University Hospital were of the pyocin type 49 while two strains out of three isolated from burns at Zifta General Hospital produced the type 25. This reflects cross infection among patients of burns. The type 31 could be detected in both urinary and septic wound strains and the type 17 was detected

among both localities.

A set comprising 8 strains of Ps. aeruginosa differing in pyocin production, antibiotic resistance patterns and clinical sources were applied in typing the isolated strains of Ps. aeruginosa. It was compared with Gillies and Govan indicator set in reproducibility and discriminatory ability. It was found that it's reproducibility ranged from 90 - 97.5% with a mean of 95.8% while that of Gillies and Govan ranged from 85 - 100% with a mean of 95.3%. There was no significant difference between both sets.

Using the selected indicator pyocin typing set, it was able to type the isolated strains of Ps. aeruginosa as 28 pyotypes were produced. The most predominant types were U₆ (5 strains), 6₅ (4 strains) and 6₇ and 7₃ (3 strains for each). The discriminatory ability was equal to 8. No solid correlation could be detected between typing by this method and antibiotic resistance, however strains belonging to the type 7₃ were isolated from patients with