SUMMARY AND CONCLUSION

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Urinary tract infection is a common nosocomial infection in elderly population. This work was to assess the extent of significant bacteriuria in old age and its relation to sex of the patient also to find the type of antibiotic resistance, if it is plasmid mediated or not.

One hundred pateints were examined and divided into two groups, group A=50 patients (40 males and 10 females) suffering from symptoms of urinary tract infections and group B 50 patients (30 males and 20 females) not suffering from any symptoms of urinary tract infections. all patients were above 50 years old and the results were as follows :

1- Examination for pus cells :

A) in group A:

Significant pyuria was found in 80% of male patients and in 90% of female patients.

B) in group B:

Significant pyuria was found in 23.3% of male patients and in 40% of female patients.

2- Examinaion for significant bacteriuria

A) in group A:

In symptomatic patients bacteriuria was found in 80% of male patients and in 90% of female patients.

B) in group B:

Bacteriuria was found in 23.3% of male patients and in 40% of female patients.

- Type of organisms isolated :

A) in group A:

Gram negative organisms predominated : the first predominant organism was Ecoli (13 cases) then Pseudomonas (12 cases), Klebsiella (8 cases), Proteus (5 cases) and Staphylococcus aureus (4 cases).

B) In group B: Gram positive organisms predominated : Staphylococcus aureus were 8 cases, Ecoli (3 cases), then pseudomonas (2 cases) and Proteus (2 cases).

3- Serotyping of Ecoli isolated revealed that they are of enteropathogenic type *and* originate from the bowel and reach the urinary tract by ascending or descending routes, except 2 cases of serotyping 0 124 of the enteroinvasive type.

-Antibiotic sensitivety was performed for the organisms isolated from group (A) and group(B)

Ecoli was sensitive to Ceftrixone , Norfloxacin, Furadantin.

Pseudomonas showed resistance to most of the antibiotics

used in symptomatic cases. The sensitivity to Norfloxacin was 41.7% followed by Nalidixic acid 33.3% then Ceftriaxone 16.7%.

Klebsiella was sensitive to :

Ceftriaxone, Norfloxacin, Amoxicillin, Negram, Garamycin then Vibramycin, Sutrim, Furadantin.

Proteus : the most effective antibiotics were ceftriaxone, Norfloxacin, Amoxicillin then Negram, and Vibramycin.

In gram positive organisms the most effective antibiotics were :

Rifocin, Garamycin, Norfloxacin, Erythrocin, Ceftriaxone then Vibramycin, Amoxicillin, Furadantin. The least effective was : Streptomycin, Chloramphenicol and Negram.

5- Plasmid curing was performed to know the type of resistance in Ecoli and pseudomonas strains to the following antibiotics : garamycin, streptomycin and amoxicillin. Plasmid curing was performed by elevated temperature at 42 C and 45 C and by increasing ascorbic acid concentration at 100 ug/ml and 300ug/ml together with increasing antibiotic concentration (at 25, 50, 100, 200) ug/ml

There was increasing in the inhibitory zones after curing except in few cases e.g In Garamycin resistant strains of Ecoli there was no curing in 3 cases (no 12,45, F8)

In Streptomycin resistant strains no curing in 4 cases (8, 12, 29 and F8) group (B)

In Amoxicillin resistant strains no curing in 4 cases (8, 20, 44, F8)

In Pseudomonas resistant strains :

In Garamycin resistant strains there was no curing in case no. 2, 24, 33, 35 and F12 in group(B)

In Streptomycin resistant strains

no curing in 4 cases no.9, 39, 50 and no.19 in group(B)

In Amoxicillin resistant strains

Curing occured to all the resistant strains of Symptomatic and Asymptomatic cases and there was an increasing in the diameter of inhibitory zones with elevated temperature or increasing ascorbic acid concentration together with increasing antibiotic concentration.

In conclusion

Gram -ve bacilli predominated in symptomatic cases and gram +ve cocci in asymptomatic cases. The percentage of urinary tract infections in females was higher than in males and the plasmid was responsible for the antibiotic resistance in Ecoli and Pseudomonas so to overcome this problem we can use ascorbic acid and by elevation of temperature.