Summary and Conclusions
SUMMARY AND CONCLUSIONS

I. U. urealyticum and M. hominis as incriminating pathogen

1. The isolation rate of U. urealyticum and M. hominis from NGU was 63% and 14.1% respectively. A statistically significant difference was observed in the isolation rate of U. urealyticum in patients with NGU when compared with matched male controls (P < 0.001). A rise or fall in four fold titre was observed in 48.14% of the convalescent sera tested by metabolic inhibition test against U. urealyticum homologous antigen in patients with NGU.

2. There was a progressive decrease in the isolation rate of U. urealyticum with the advance of age in patients with NGU and the organisms were isolated at a maximum of 75.47% in the 20 to 29 years age group. There was a progressive increase in the isolation rate of U. urealyticum with the advance of age in the healthy control subjects and U. urealyticum was isolated at a maximum of 28.5% in the 40-49 years age group.

3. U. urealyticum was isolated from 79.41% of NGU patients with three or more contacts and there was a progressive increase in the isolation rate of U. urealyticum with the number of contacts the patient has had.
4. U. urealyticum was isolated from 71.42 % of married promiscous NGU patients as against 33.33 % from married NGU patients who had sexual contact with spouse only.

5. U. urealyticum was isolated in a concentration of $10^3$ ccu/50 ml of urine from 38.4 % of patients with NGU as against from 3 % of control subjects.

6. Serotype 2 was isolated from 45 % of cases with NGU and this was followed by serotype 4 (20 %). Serotype 8 was isolated from 30.76 % of male controls and this was followed by serotype 1 and serotype 5 (23.07 % each).

7. The isolation rate of M. hominis and U. urealyticum from PID was 54.9 % and 11.8 % respectively and there was a statistically significant difference in the isolation rate of M. hominis from PID when compared with healthy matched female controls ($P < 0.001$). There was a rise or fall in four fold titer in 45.45 % of convalescent sera tested for in patients with PID against M. hominis homologous antigen.

8. U. urealyticum was isolated from 12 % of tubal aspirates and from 21.73 % of vaginal swabs in patients with infertility. A rise in fourfold titre was observed in one patient with infertility against U. urealyticum homologous antigen by metabolic inhibition test.
9. M. hominis was isolated from the blood of 6.25 % postpartum fever cases and from 7.40 % of post abortal fever cases.

10. The isolation rate of U. urealyticum and M. hominis from cases of vaginitis and cervicitis was 18.75 % and 40.62 % respectively. The isolation rate of U. urealyticum and M. hominis from patients with sexually transmitted disease was 38.09 % and 58.73 % respectively.

II. Characterization

1. U. urealyticum and M. hominis were sensitive to 1.5 % digitonin and 5 % sodium-polyanethol-sulfonate. Acholeplasmas were resistant to 1.5 % digitonin and 5 % sodium-polyanethol-sulfonate.

III. Effect of physical and chemical agents on U. urealyticum and M. hominis

1. Fifty two strains of U. urealyticum were inhibited by 0.2 % thallium acetate where as 55 strains of M. hominis were not inhibited by 1.0 % thallium acetate.

2. Eight strains of M. hominis was resistant to 20 % v/v diethyl ether after 12 hours treatment but were sensitive after 24 hours treatment. M. hominis was sensitive to 40% v/v diethyl ether. 3 strains of U. urealyticum was resistant to 20 % v/v diethyl ether after 12 hours treatment and were sensitive after 24 hours treatment.
3. Ten strains of M. hominis were viable at 56°C when exposed for 5 minutes whereas as 6 strains remained viable when exposed for 10 minutes. U. urealyticum was inactivated on exposure to 56°C for 5 minutes and 10 minutes.

IV. Antibiotic susceptibility pattern of U. urealyticum and M. hominis

1. The MIC of tetracycline and chloramphenicol against U. urealyticum ranged between 0.5 to 4.0 micrograms/millilitre. The MIC of tetracycline and chloramphenicol ranged from 0.5 to 2.0 micrograms/millilitre and 0.5 to 4.0 micrograms/millilitre respectively against M. hominis.

2. The susceptibility pattern of the organisms can be divided into 3 different groups:

   a. U. urealyticum and M. hominis were sensitive to tetracycline and chloramphenicol,

   b. Both were resistant to Ampicillin, Vancomycin and polymyxin-B-sulphate,

   c. Erythromycin and lincomycin had differential effect on U. urealyticum and M. hominis. U. urealyticum was sensitive but M. hominis was resistant to Erythromycin. On the contrary M. hominis was sensitive and U. urealyticum was resistant to Lincomycin.

V. Experimental study of U. urealyticum on male monkeys and M. hominis in female rats

1. Experimental inoculation of U. urealyticum into the urethera of Macaca radiata led to the uretheritis up to 21 days.
2. Experimental inoculation of M. hominis into the uterine horns of rats revealed inflammatory changes as examined by histopathology.

VI. Futurology

The present study has revealed that U. urealyticum in the male and M. hominis in the female can be considered as a probable incriminating pathogen in clinical diseases. Experimental studies has also revealed that U. urealyticum could cause pathogenicity in male monkeys and M. hominis in female rats.

There is a scope for further studies on fundamental characterization of the antigenic component one or more that may be involved in the clinical lesion. Such characterization of an antigen/antigens will throw light to the possibility for the development and production of an effective vaccine, if any.