RESULTS

The present study included 84 infertile patients in addition to 20 fertile control cases.

50 Cases were studied for aerobic bacteria while 54 were investigated for anaerobic bacteria.

RESULTS IN AEROBIC STUDY

CLINICAL STUDY:

History:

Age: age of patients ranged between 24-45 years with predominance of the second decade, age of the control ranged between 25-45 years with predominance of the third decade.

Table (1) demonstrate the age distribution of both patients and control.

All patients were complaining of 1ry infertility.

Past history: Eight infertile patients (20%) gave history of burning micturation, while 1 control case (10%) gave the same history.

Sixteen infertile patients (40%) and 3 controls (30%) gave a past history of bilharziasis.

Six infertile patients (15%) gave history of epididymo-orchitis.

The results of history analysis shown in Table (2).

Examination:

No abnormalities were noted in general body examination.

BACTERIOLOGICAL STUDY:

Urine analysis:

The number of pus cells/H.P.F. in urine samples ranged between 10 to 20 in 30 infertile patients (75%).

The number of pus cells/H.P.F. in urine samples had more than 25 pus cells/H.P.F. in 10 infertile patients (25%).

The number of pus cells in control cases ranged between one to 10/H.P.F.

Shows table (3).

Urine culture:

Table (4) shows the bacteria isolated from the urine by culture on the following media (nutrient agar, blood agar, chocolate agar and MacConkey).

Of the isolated bacteria 15 cases (37.5%) were staphylococci (6 cases staph. aureus "15%" and 9 cases staph. epidermidis "22.5%"), E coli in 12 patients (30%), proteus in 2 cases (5%), pseudomonous in 2 cases (5%) and combined infections were found in 7 cases as demonstrated in table (5).

The culture of urine on sabauraud's media showed no growth.

Microscopic examination of semen:

This is demonstrated in table (6) where 32 patients (80%) had pus cells between 15-25/H.P.F. and 8 patients (20%) had more than 25 pus cells/H.P.F.

Culture of semen:

Culture of semen on the different bacteriologic media was done for isolation of the infecting organisms, then

identification by gram staining and biochemical reactions.

Table (7) shows the isolated organism from which it is clear that staph. spidermidis is the most common infecting organism and combined infection in 5 cases.

Table (8) show the mixed infection revealed from the culture of semen which indicate the type of the organism and the number of the affected cases.

Table (9) show the isolated organisms from the control cases.

For the infertile patients:

Sterile culture (no growth) were obtained in 6 cases (15%), staphylococcus epidermidis in 19 cases (47.5%), staphylococcus aureus in 8 cases (20%), staphylococcus aureus mixed with staphylococcus epidermidis in 3 cases (7.5%) and staphylococcus epidermidis mixed with B-haemolytic streptococcus in one cases (2.5%) and mixed with proteus in one cases (2.5%).

For the control cases:

Sterile cultures (no growth) were obtained in 4 cases (40%), staphylococcus epidermidis in 4 cases (40%), staphylococcus aureus in 1 cases (10%) and staphylococcus epidermidis mixed with streptococcus faecalis in 1 cases (10%).

Culture of semen on sabauraud's media revealed negative results in both infertile and control group.

RESULTS IN ANAEROBIC STUDY

The present study was included 44 patients suffering from infertility and 10 fertile men as a control. The male were subjected to clinical and bacteriological investigations.

Age incidence:

In patients: The age in this series ranged between 22-48 years, with predominance of the second decade (Table 10).

In control: The age ranged between 25-45 years (Table 10).

Past History:

* All the patients had a history of disturbed sexual function.
* Twenty patients (45%) gave past history of bilharziasis.
* No history of TB or other diseases were obtained.
* Three cases of control gave past history of Bilharziasis.

Complaint:

* All the patients (44) had a complaint of 1ry infertility.
* Eight patients of infertile group (18%) had urinary complaint such as dysuria and frequency of micturation.
* Six patients of infertile group gave a history of pain, occuring at various site.

General examination:

No abnormalities were detected in general body examination.

Laboratory Investigation

Direct microscopic examination:

Urine examination:

* Urine in all the studied cases was found to be normal in appearance, with pus cells count between 0-10 pus cells/H.P.F.

Semen examination:

* The total number of pus cells in the semen of the infertile group ranged between 10-20 pus cells/ H.P.F. in 15 cases, and ranged between 20-30 pus cells /H.P.F. in 18 cases and between 30-50 pus cells/H.P.F. in 9 cases and more than 100 pus cells/H.P.F. in 2 cases (Table 11).

* The number of pus cells in semen of control group was less than 10 pus cells/H.P.F.

Bacteriological Results:

Urine culture:

Urine culture for the infertile patients anaerobically showed negative results in all the cases.

Semen culture:

Semen culture of the infertile patients anaerobically using a specific media (Wilkins-Chalgren anaerobic agar media) and incubated by using anaerobic jar for 5 days revealed anaerobic growth in 19 cases, the growth was examined microscopically by gram staining and identified

by biochemical reaction using API reveals the following:

* Seven cases of Bacteroides Fragilis (non spore forming bacilli gram -ve).

* Six cases of fusobacterium mortiform (non spore forming Bacilli gram -ve).

* Four cases peptostreptococcus anaeroblus (cocci gram +ve).

* Two cases clostridium ramosum (spore forming bacilli gram +ve).

Table (12) shows the types and percentages of anaerobic organisms.

The control group gave negative cultures.

Table (1): Shows the age groups of the infertile (40 cases) and the control (10 cases).

Ages in years	Infertile		Control	
	No. of patients	Percentage	No. of cases	Percentage
20-30	25	50%	3	30%
30-40	15	30%	5	50%
40-50	10	20%	2	20%

Table (2): Show analysis of the history.

Symptoms	Infertile		Control	
	No. of patients	Percentage	No. of cases	Percentage
Bilharziasis	16	40%	3	30%
burning micturation	8	20%	2	20%
epididymoorchitis	6	15%		

Table (3): Shows the pus cell count/H.P.F. in urine of patient and control.

Number of pus cells/H.P.F.	Infertile		Control	
	No. of patients	Percentage	No. of cases	Percentage
1-10			10	100%
10-20	30	75%		
more than 25	10	25%		

Table (4): Shows the isolated bacteria from urine of the 40 infertile patients.

No. of cases	The bacteria isolated
6	Staphylococcus aureus
9	Staphylococcus epidermidis
2	Streptococcus faecalis
12	E-coli
2	Proteus
2	Pseudomonas pyocyanea
7	Combined infection

Table (5): Shows the type of microorganism and number of cases of mixed infection of the urine.

Type of microorganism	Found mixed with	No. of cases
Staphylococcus aureus	E-coli	1
	Proteus	1
	Streptococcus faecalis	1
Staphylococcus epidermidis	E-coli	2
	Streptococcus faecalis	1
E-coli	Streptococcus faecalis	1

Table (6): Show the pus cells in semen of infertile patients.

Pus cells/H.P.F.	No. of patients	Percentage of total
15-25	32	80%
more than 25	8	20%

Table (7): Show the isolating organisms in culture of semen of infertile group and its percentage.

The organisms	No. of patients	Percentage of total
No growth	6	15.0%
Staphylococcus epidermidis	19	47.5%
Staphylococcus aureus	8	20.0%
E-coli	1	2.5%
Proteus	1	2.5%
Mixed infection	5	12.5%

Table (8): Show the type of cases of mixed infection in infertile cases.

The organi sms	Found mixed with	No. of cases
Staphylococcus aureus	Staphylococcus apidermidis	3
Staphylococcus epidermidis	Haemolytic streptococcus	1
	Proteus	1

Table (9): Show the isolating organism by culture semen of control cases.

The organisms	No. of patients	Percentage
No growth	4	40%
Staphylococcus epidermidis	4	40%
Staphylococcus aureus	1	10%
Staphylococcus epidermidis Mixed with streptococcus faecalis	1	10%

Table (10): Shows the age incidence in patients and in control in anaerobic study.

Ages in years	Infertile		Control	
	No. of patients	Percentage	No. of cases	Percentage
2nd decade	21	47.7%	2	20%
3rd decade	15	30.2%	3	30%
4th decade	8	22.1%	5	50%

Table (11): Shows the pus cell count/H.P.F. in semen of patients and control.

Number of pus cells/H.P.F.	Infertile		Control	
	No. of patients	Percentage	No. of cases	Percentage
less than 10			10	100%
10-20	15	34.0%		
20-30	18	40.9%		
30-50	9	20.4%		
more than 100	2	4.5%		

Table (12): Shows the isolated anaerobic bacteria of semen in 44 infertile patients.

Number of cases	The bacteria isolated	Percentage
25	No growth	56.8%
7	Bacteroides	15.9%
6	Fusobacterium	13.6%
4	Peptostreptococcus	9.0%
2	Clostridium	4.5%