

RESULTS

R E S U L T S

The study was done on twenty-seven infertile males with definite obstructive azoospermia proved by repeated semen analysis showing absence of sperms and spermatogenic cells from the ejaculate. All patients have clinically felt nodule at the globus minor. The data collected can be summarized as follows:

I. History:

1) Age:

The oldest patient was 60 years of age, the youngest was 25 years of age. The highest age incidence lies between 25-40 years representing 66.6% of all cases. (Table No. I).

2. Type of sterility:

Of these 27 cases, 7 cases have secondary sterility representing 25.9% of all cases, while 20 cases have primary sterility representing 74.1% of all cases (Table No. II).

3. Previous illness affecting the genital area:

- 14 patients gave history suggestive of urinary bilharziasis representing 51.8% of all cases.

- 4 patients gave history suggestive of gonorrhoea representing 14.8% of all cases.

- 3 patients gave history of trauma to the genital area followed or not followed by picture suggestive of epididymo-orchitis representing 11.1% of all cases.

- One patient gave history of pulmonary tuberculosis representing 3.7% of all cases, another patient, on examination showed multiple tuberculous sinuses discharging thin serous fluid on the posterior aspect of the scrotum.

- One patient gave history suggestive of mumps with testicular involvement representing 3.7% of all cases.

- One patient gave history of operation for inguinal hernia representing 3.7% of all cases.

- No one of all patients have history suggestive of filariasis (recurrent attacks of fever with scrotal swelling in an endemic area) representing 0% (Table No. III).

4. History of epididymo-orchitis:

- Five cases gave history of right epididymo-orchitis representing 18.5% of all cases.

- Six cases gave history of left epididymo-orchitis representing 22.2% of all cases.

- Five cases gave history of bilateral epididymo-orchitis representing 18.5% of all cases.

- Eleven cases gave no history of epididymo-orchitis representing 40.7% of all cases. (Table No. IV).

5. History of operations on the urogenital tract:

- 4 cases gave history of operations for stones of the urinary tract representing 14.5% of all cases.

- 5 cases gave history of hydrocelectomy representing 18.5% of all cases.

- 4 cases gave history of epididymovasostomy representing 14.8% of all cases.

- 2 cases gave history of testicular biopsy, representing 7.4% of all cases.

- 6 cases gave history of different other operations on the urogenital tract representing 22.2% of all cases. (Table No. V).

II. Examination:

1. Testis:

The size of the testis was normal in 18 cases (66.2%), moderate in 8 cases (29.6%), the testis was absent on one side in one case (3.7%).

The consistency of the testis was normal in 20 cases (74.1%), firm in two cases (7.4%), and atrophic in 3 cases (11.1%). (Table No. VI).

2. Epididymis:

All cases selected have a clinically felt epididymal nodule at the globus minor. Of these nodules, seven were on the right side (25.9%), seven were on the left side (25.9%), thirteen were bilateral (48.1%). (Table No. VII).

3. Vas:

The vas was present and normal in 25 of cases (92.6%), It was absent on the right side in one case (3.7%), it was thickened bilaterally in one case (3.7%). (Table VIII).

4. Cord:

The cord was normal (no thickening and no matting) in 23 of cases (85.2%). It was thickened in one case (3.7%), there was left varicocele in one case (3.7%), there was right spermatocele in one case (3.7%), the cord was absent on one side in one case (3.7%).

5. Tunica vaginalis:

On examination, six cases showed hydrocele (22.2%), of these one was on the right side (3.7%), one was on the left side (3.7%), and four were bilateral (14.8%) (Table No. IX).

6. Varicocele:

One case showed left mild varicocele (3.7%).

7. Prostate:

The prostate was normal in 18 of cases representing 66.6% of all cases (normal size, consistency, with no tenderness). It was enlarged with mild tenderness in 9 cases. (33.3%) (Table X).

III. Laboratory Findings:

1. Urine:

Urine examination was normal (no pus cells, no R.B.Cs., no abnormal crystals, no ova) in 23 of cases (85.2%), while 4 cases showed mild urinary tract infection with pus cells up to 20/H.P.F. (14.8%), there was mild haematuria up to 20/H.P.F. in 6 cases (22.2%).

2. Prostatic smear:

Prostatic smear was normal in 22 of cases (no pus cells, no R.B.Cs., no ova) (81.5%).

Mild prostatitis with pus cells up to 25/H.P.F. was found in 5 cases (18.5%).

3. Semen:

All cases showed azoospermia with no sperms or spermatogenic cells in the ejaculate.

No other abnormalities in the ejaculate were detected.

IV. Epididymal Biopsy:

Microscopic examination of the epididymal biopsy revealed the following main pathological changes:

1. Chronic non-specific inflammatory cellular infiltration without fibrosis.
2. Chronic non-specific inflammatory cellular infiltration with fibrosis.
3. Fibrosis.
4. Sperm granuloma.
5. No inflammatory reaction only distended epididymal tubule.
6. Bilharzial infiltration.
7. Tuberculous infiltration.
8. Teratoma.

(Table XI).

1. Chronic non-specific inflammatory cellular infiltration:

Among the 27 biopsies, 11 biopsies showed chronic non-specific inflammatory cellular infiltrate formed mainly of lymphocytes in a focal, peritubular position. Other pathological changes found in these eleven cases included one or more of the following pathological changes:

1. Partial focal ulceration of the epididymal mucosa in three cases.
2. Dilated epididymal tubule in two cases.
3. Collagen fragmentation in two cases.
4. Focal oedema of the epididymal mucosa. in two cases.
5. Haemosiderin deposition in one case.
6. Macrophage reaction in one case.
7. End-arteritis in one case.

Of these eleven patients, two patients gave history of bilateral epididymo-orchitis (18.9%).

Three patients gave history of right epididymo-orchitis (27.3%), One patient gave history of left epididymo-orchitis (9.1%), while five patients have no history of definite epididymo-orchitis (45.5%). (Table XII).

2. Chronic non-specific infiltration with fibrosis:

The co-existence of both lymphocytic infiltration and fibrosis was found in two cases (7.4%).

3. Fibrosis:

Fibrosis with the formation of fibrous tissue bands was found in 6 cases (22.2%).

Of these six patients, one gave history of bilateral

epididymo-orchitis, one gave history of right epididymo-orchitis, two patients gave history of left epididymo-orchitis, two patients gave no definite history of epididymo-orchitis.

4. Sperm granuloma:

Three epididymal biopsies showed the formation of sperm granuloma (11.1%), with the following pathological changes:

- Leakage of degenerated sperms into the interstitial tissue of the epididymis, with focal peritubular lymphocytic infiltration.

- The epididymal tubule is empty in some parts and degenerated in others.

- There is marked hyperplasia of the epithelial lining of epididymal tubule.

- The epithelium is loaded with haemosiderin and lipo fuchsin.

5. Bilharzial infiltration:

One case (3.7%) showed bilharzial infiltration with definite bilharzia ova surrounded by bilharzial granulation tissue. The patient gave history of urinary bilharziasis, history of gonococcal urethritis, and history of right epididymo-orchitis.

6. Tuberculous infiltration:

One case (3.7%) showed tuberculous granulation tissue with caseation and fibrosis. The patient gave no history of pulmonary tuberculosis, no renal complaint. On examination, there was multiple sinuses discharging thin serous fluid on the posterior aspect of the scrotum.

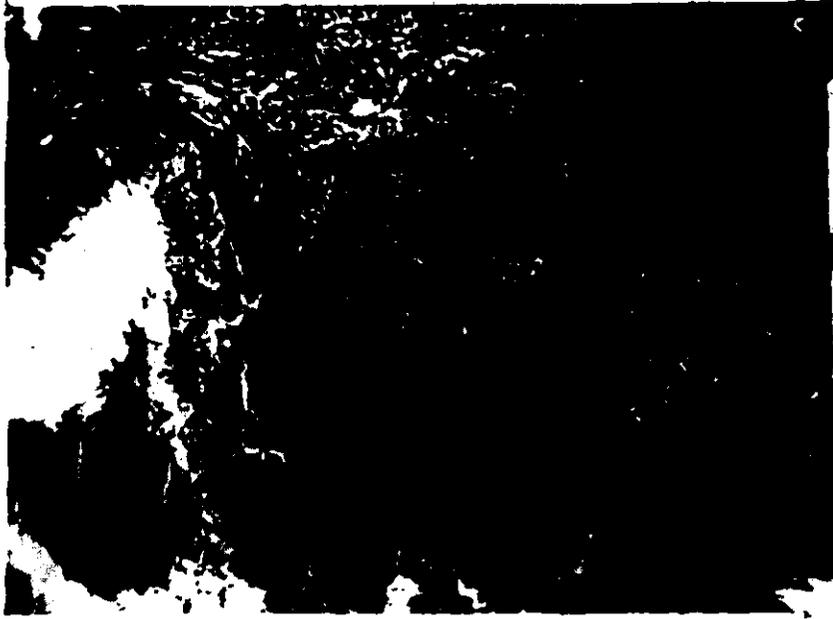
7. Teratoma:

One case of the epididymal biopsies was suspected to be epididymal teratoma (3.7%) with the following pathological criteria:

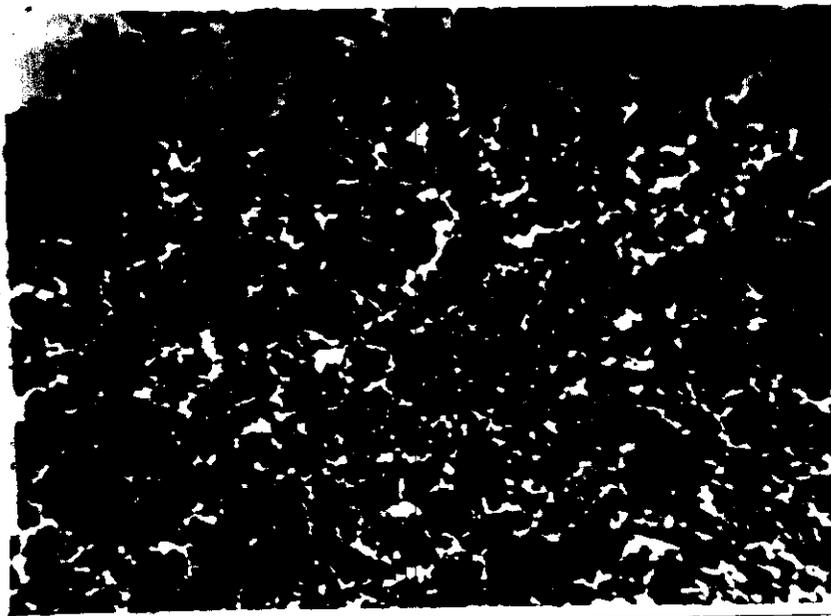
- Cartilaginous metaplasia.
- Bone marrow.
- Organized haemorrhage.
- Crystals of cholesterol.
- Patchy dilatation of the epididymal tubule.
- Focal ulceration of the tubular mucosa.
- Granuloma in the tubular wall.
- Macrophages loaded by haemosiderin.

8. No inflammatory reaction:

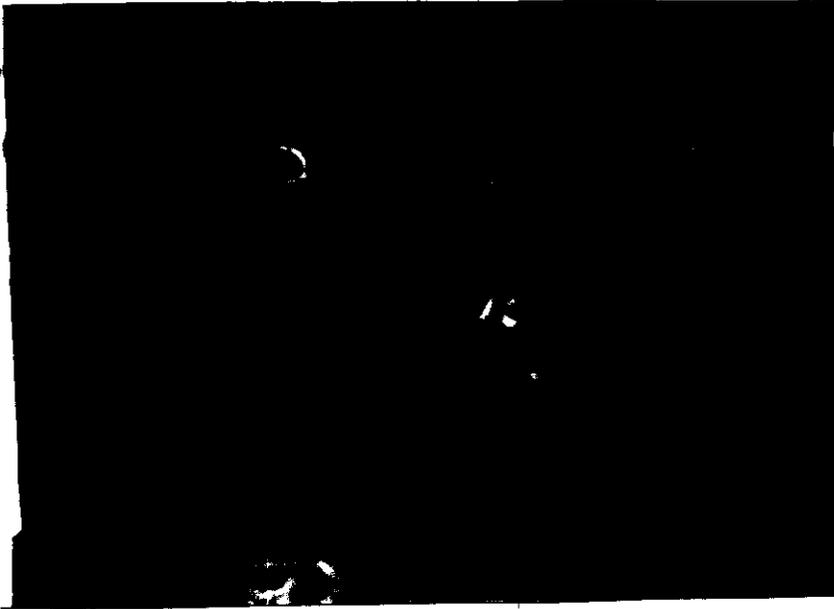
Two biopsies showed no inflammatory reaction with only distended epididymal tubule. (7.4%).



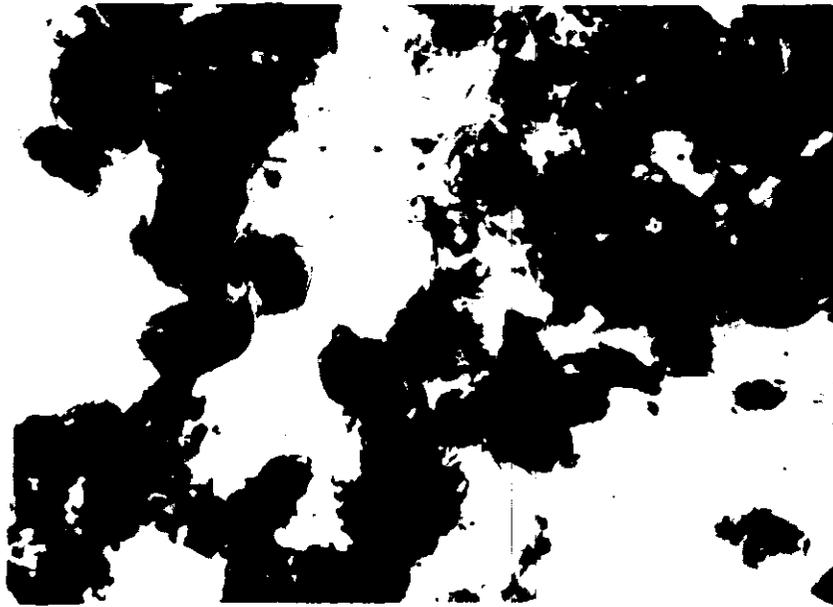
Sperm Granuloma



Tuberculous infiltration of the epididymis



Teratome of the tail of the epididymis



Bilharzial infiltration of the epididymis

Age Group	No.of cases	Percentage
25-30	6	22.2
31-35	6	22.2
36-40	6	22.2
41-45	2	7.4
46-50	3	11.1
51-55	2	7.4
56-60	2	7.4
Total	27	100.0

Table (I): Age Groups.

Type of Sterility	No.of cases	Percentage
Primary Sterility	20	74.1
Secondary Sterility	7	25.9
Total	27	100.0

Table (II): Type of Sterility.

	No.of cases	Percentage
Right epid.-orchitis	5	18.5
Left epid. -orchitis	6	22.2
Bilateral	5	18.5
No history	11	40.7
Total	27	100.0

Table (IV): History of epididymo-orchitis.

Disease	No.of cases	Percentage
Bilharziasis	14	51.9
Gonorrhoea	4	14.8
Trauma	3	11.1
Tuberculosis	1	3.7
Mumps	1	3.7
Inguinal hernia	1	3.7

Table (III): History of previous illness affecting the genital area.

Operation	No.of cases	Percentage
Stones of the U.T.	4	14.8
Hydrocelectomy	5	18.5
Epididymo-vasostomy	4	14.8
Testicular biopsy	2	7.4
Other operations	6	22.2

Table (V): History of operation on the urogenital tract.

Size of the Testis	No.of cases	Percentage
Normal	18	66.7
Moderate	8	29.6
Absent	1	3.7
Total	27	100.0

Consistency of the testis	No.of cases	Percentage
Normal	21	77.8
Firm	2	7.4
Atrophic	3	11.1
Absent	1	3.7
Total	27	100.0

Table (VI): Size and consistency of the testis.

Side of nodule	No. of cases	Percentage
Right	7	25.9
Left	7	25.9
Bilateral	13	48.1
Total	27	100.0

Table (VII): Side of Epididymal nodule.

Vas	No. of cases	Percentage
Normal	25	92.6
Absent	1	3.7
Thickened	1	3.7
Total	27	100.0

Table (VIII): Condition of the Vas.

Side of Hydrocele	No. of cases	Percentage
Bilateral	4	14.8
Right	1	3.7
Left	1	3.7
Total	6	22.2

Table (IX):

Prostate	No. of cases	Percentage
Normal	18	66.7
Enlarged and tender	9	33.3
Total	27	100.0

Table (X): Examination of the prostate.

	No.of cases	Percentage
Non-sp.inflamm. without fibrosis	11	40.7
Non-sp.inflamm. with fibrosis	2	7.4
Fibrosis	6	22.2
Sperm granuloma	3	11.1
Bilh. infiltration	1	3.7
Tuberculous infiltration	1	3.7
Teratoma	1	3.7
No inflammatory reaction	2	7.4
Total	27	100.0

Table (XI): Histopathology of the nodules.

	No.of cases	Percentage
Bilat. epid. orchitis	2	18.2
Rt. epid. orchitis	3	27.3
Lt. epid. orchitis	1	9.1
No history of epid. orchitis	5	45.5
Total	11	100.0

Table (XII): History of epididymo-orchitis in cases of chronic non-specific inflammation.