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A Clinicopathological & Radiological Evaluation of 100 Cases of Scrotal Swellings with Special Reference to Testicular Tumour in Western Uttar Pradesh

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Abstract: ***Scrotal swelling were earlier considered to be an area over unaided clinical expertise. Scrotal swelling can occur in males at any age. Scrotal masses may be intratesticular or extratesticular, either solid or cystic.A prospective study was done on 100 patients presenting to our hospital over 2 years with complaint of scrotal swelling. Factors such as age, presenting complaint, laterality were analysed, a definite diagnosis was made on the basis of USG, Colour Doppler and Histology. Collected data was then analysed and compared to previous studies.***

Keywords: scrotal swellings, testicular tumors

1. Introduction

The scrotum was earlier considered as an area of unaided clinical expertise. Nevertheless, the nature of some of the scrotal masses remains baffling. Scrotal swelling is an abnormal enlargement of the scrotum. This is the name for the sac surrounding the testicles.[1] Scrotal masses may be intratesticular or extratesticular, either solid or cystic. Most of the intratesticular masses should be considered malignant unless proven otherwise. Extratesticular cystic masses are almost certainly benign, whereas extratesticular solid masses have a malignant rate of 16%, which though being much lower than intratesticular masses, is high enough to be of concern.[2] Common causes of scrotal swelling include epididmytis, hydrocele, varicocele.

Although testicular tumours are rare, accounting for fewer than 1 per cent of all cancers, they are the most common solid tumours to affect young men aged 15–44 years, with 1871 cases in England in 2010.[3] Testicular tumours are treatable, with 97 per cent overall five-year survival.[4] Risk factors for testicular tumours include age, Caucasian ethnicity, cryptorchidism, family history, a history of testicular tumour in the contralateral testism. HIV infection, Down syndrome, and testicular trauma.[5]

Presentation of testicular tumors may be with a painless unilateral lump within the testis with symptoms mimicking epididymo-orchitis and gynaecomastia.

Tumour markers such as alpha- fetoprotein, beta-human chorionic gonadotropin(b-hCG). Lactate dehydrogenase (LDH) are measured. Elevated tumour markers are a prognostic indicator, as is the degree to which they are elevated.

Accurate diagnosis of scrotal swellings is of paramount importance, since they may range from the common ones, hydrocele (Commonest), and rare ones like malignancy causing secondary hydrocele, hematocele, pyocele. Clinical examination is often elucidative in scrotal diseases and therefore imaging is not frequently required. When necessary, ultrasonography (US) is the first option and, often, the only imaging method required to make a reliable diagnosis,[6,7,8,9] because of its good accuracy and availability and the anatomic details provided by high frequency, linear transducers.[10] The ability of Color Doppler to study blood flow[11] makes US an excellent imaging method in acute scrotal diseases.[12]

To our best knowledge few studies was done on this subject in India.

The main aim of our study was to determine various etiological aspects of different swellings of scrotum, along with various modes of presentations and its management.

2. Material and Methods

A prospective study was conducted during October 2014-September 2016 on patients admitted with complaints of scrotal swellings sample size was 100 patients (n=100). Patient were informed of this study and a written consent was taken from all patients who were willing for participation. A diagnosis was made on the basis of history, clinical examination, laboratory and radiological investigations.

3. Procedure

Each patient gave written, informed consent to participate in this study and the study protocol was approved by the institutional review board including ethical issue. A detailed history and examination of each patient was done. Lab investigations such as Hb, TLC, DLC, PCV, Platelet Count., RBS, Blood Urea, Serum Creatinine.,Urine Routine microscopy, Urine culture and sensitivity, Ultrasonography of scrotum, Colour Doppler of Scrotum and if required histology was also done depending upon the case. Definite management was done after confirming the diagnosis on the basis of above investigations and patients were managed on the basis of each and every individual case.

4. Observation and Results

Table 1: Age Wise Distribution

Age Group	*No. of Cases*	*Percentage*
0-10	2	2%
20-Nov	16	16%
21-30	41	41%
31-40	18	18%
41-50	13	13%
51-60	4	4%
61-70	2	2%
71-80	4	4%
Total Patients	100	100%

Table 2: Distribution according to Presenting Complaint

Symptoms	*No of Cases*	*Percentage*
Pain	64	64%
Tenderness	64	64%
Fever	39	39%
Total	100	100%

Table 3: Distribution of cases according to laterality of scrotal swelling

Laterality	*No of Cases*	*Percentage*
Right	30	30%
Left	44	44%
Bilateral	26	26%
Total	100	100%

Table 4: Diagnosis on the basis of Ultrasonography

Radiological Diagonosis	*No of Cases*	*Percentage*
Acute epididymitis	13	13%
Acute epididmo-orchits	7	7%
Scrotal abscess	3	3%
Hematocele	3	3%
Hydrocele	41	41%
Epididymal Cyst	6	6%
Spermatocele	1	1%
Varicocele	19	19%
Testicular torsion	4	4%
Testicular neoplasm	3	3%
Total	100	100%

Table 5: Distribution of cases according to Treatment Modalities

Treatments	*No of Cases*	*Percentage*
Conservative	28	28%
Eversion Of Sac	31	31%
Varicocelectomy	13	13%
I And D (Incision and drainage)	5	5%
Conservative Followed By Eversion Of Sac	10	10%
Conservative Followed By Varicocelectomy	3	3%
Detorsion With Orchidopexy	4	4%
Eversion Of Sac And Varicocelectomy	3	3%
High Inguinal Orchidectomy	3	3%
Total	100	100%

Table 6: Distribution of cases according to Histopathology

Histopathology Type	*No of Cases*	*Percentage*
Seminoma	3	3%

5. Results

Out of the total 100 patients included in this study the maximum incidence of patients were in the 21-30 years of age group(Table-1)

Most common presentation was pain with 64% patient having the problem (Table-2)

Left side was more common which was seen in 44% cases(Table-3).

Most common diagnosed on the basis of USG was hydrocele.(Table-4). 3% of patients were with neoplasm (seminoma) (Table-6) who underwent high inguinal orchidectomy.

6. Discussion

Tumors are the major pathological lesion in the testis. Testicular cancer is the most general solid tumor of young men but only accountable for about 1% of all cancers in men.[13] Scrotal masses may be intratesticular or extratesticular, either solid or cystic. Extratesticular cystic masses are almost certainly benign, whereas extratesticular solid masses have a malignant rate of 16%, which though being much lower than intratesticular masses, is high enough to be of concern[2]. Epidemiological risk factors for the development of testicular tumours include: a history of cryptorchidism, Klinefelter's syndrome, a familial history of testicular tumours among first-degree relatives (father or brothers), the presence of a contralateral tumour, and infertility.[14,15,16] Trauma, hormones such as diethylstilboestrol, and non-specific mumps-associated testicular atrophy have also been implicated as risk factors.

Testicular cancers may appear at any age but tend to occur in three distinct age groups: infants and children (0 to 10 years), young adults (15 to 40 years) and older adults (over 60 years). In our study all the 3 patients were in age group of 15-30 years which was in agreement with Pachori G et al[17] and Salako et al[18].Scrotal pain and tenderness was the commonest symptom 64%, whereas fever was accompanied in 34% of cases similar findings were seen in the studies of

Tan et al[19] and Mukherjee S et al[20]. Laterality of scrotal swelling revealed that in our study 44% of cases were having swelling in left side whereas 30% at right side while 26% were having bilateral scrotal pain. These findings were comparable to findings of Patel et al[21]and with other multiple studies [22,23,24.] USG findings in our setting revealed Hydrocele as most prominent cause of scrotal swellings i.e 41%, followed by Varicocele (19%), acute epididymitis (13%), Acute epididmo-orchits (7%). Testicular neoplasm was diagnosed as 3% of the studied cases. Management of cases was done with different treatment modalities, 28% patients who were treated conservatively, Eversion of Sac for hydrocele was practiced in 31% patients, and Varicocelectomy for varicocele in 13% of patients, Incision and drainage procedure was put into practice for 5% of patients suffering from scrotal abscess . whereas Conservative means followed by Eversion of Sac in 10% of patients and Conservative Management followed by Varicocelectomy in 3%of patients, Detorsion with Orchidopexy in 4% of patients and High Inguinal Orchidectomy in 3% of patients, and Eversion of Sac with Varicocelectomy 3% patients. Testicular Mass was viable in 3% of the cases. And seminoma was the only type of testicular tumor which was found in our study.

7. Conclusion

The present study was done with a view to evaluate scrotal swellings in terms of their types, presentation and management modalities in 100 consecutive cases of scrotal swellings**,** a clinicopathological & radiological evaluation, with special reference to testicular tumour. Accordingly an evaluation and management protocol was formulated by a master chart and the outcome was documented. Based on the observations and results of our research project over a period of 2 years (October 2014-September 2016), we concluded as follows. In our study 30% of the cases were having duration of presenting symptoms of one week followed by 20% cases having duration of presenting symptoms of upto 2 weeks. (However in patients presenting with hydrocele the underlying pathology was of more than 1 year but the presenting complaints such as heaviness, dragging sensation, difficulty in walking was between 1 to 8 weeks.) Ultrasonography was the most common and easily available modality for diagnosing scrotal swellings along with prompt clinical examination followed by appropriate surgical/medical management. The most prominent site of involvement of scrotal swelling encountered in our setting was epididymis in 44% cases followed by pampiniform plexus in 24%, testis in 16% and spermatic cord was in 12% cases. Most common diagnosis was Hydrocele whereas testicular neoplasm was seen in3% of cases. Urine Culture showed E.Coli as the most common organism i.e. in 12 % cases of acute epididmo-orchits as a case of scrotal swelling.

In the management of 100 cases of scrotal swellings in the present series 28 % cases were treated conservatively (antibiotics, scrotal support, analgesics, etc), 31 % patients underwent e*version of sac*(Jaboleys Procedure), Varicocelectomy was done in case of 13 % patients, I And D (Incision and drainage) procedure was put into practice in 5 % patients. Conservative means(antibiotics, scrotal support, analgesics, *etc*) followed by Eversion of Sac in 10 % patients with acute Epididymitis, acute epididmo-orchits along with hydrocele, Conservative management(*antibiotics, scrotal support, analgesics, etc)* with Varicocelectomy was done in 3 % patients with acute Epididymitis, acute epididmo-orchits with varicocele, Detorsion with Orchidopexy was done in 4 % patients, High inguinal Orchidectomy in 3 % patients for testicular tumour. 3% of the patients coming with scrotal swellings were diagnosed as a case of testicular tumour (seminoma), the incidence of which almost matches the available data, as per the standard protocol they were treated with a high orchidectomy and are under follow up.

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