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A Clinicopathological & Radiological Evaluation Of Scrotal Swellings

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Abstract: *Scrotal swellings 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 50 patients presenting to our hospital over 1 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, ultrasonography scrotum*

I. 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. 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.[2] Testicular tumours are treatable, with 97 per cent overall five-year survival.[3] 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.[4]

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

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,[5,6,7,8] because of its good accuracy and availability and the anatomic details provided by high frequency, linear transducers.[9] The ability of Color Doppler to study blood flow[10] makes US an excellent imaging method in acute scrotal diseases.[11]

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.

II. Material And Methods

A prospective study was conducted during October 2015- September 2016 on patients admitted with complaints of scrotal swellings sample size was 50 patients (n=50). Patients 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.

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 Complete Blood Count, Random Blood Sugar, 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.

III. Observation And Results

Table 1: Age Wise Distribution

Age Group	No. of Cases	Percentage
0-10	1	2%
11-20	8	16%
21-30	20	40%
31-40	9	18%
41-50	7	14%
51-60	2	4%
61-70	1	2%
71-80	2	4%
Total Patients	**50**	**100%**

Table 2: Distribution Of Cases According To Laterality Of Scrotal Swelling

Laterality	No of Cases	Percentage
Right	15	30%
Left	22	44%
Bilateral	13	26%
Total	**50**	**100%**

Table 3: Diagnosis on the basis of Ultrasonography

Radiological Diagnosis	No of Cases	Percentage
Acute epididymitis	7	14%
Acute epididmo-orchits	3	6%
Scrotal abscess	2	4%
Hematocele	1	2%
Hydrocele	20	40%
Epididymal Cyst	3	6%
Spermatocele	1	2%
Varicocele	10	20%
Testicular torsion	1	2%
Testicular neoplasm	2	4%
Total	**50**	**100%**

Table 4: Distribution of cases according to Treatment Modalities

Treatment	No of Cases	Percentage
Conservative	14	28%
Eversion Of Sac	16	32%
Varicocelectomy	6	12%
I And D **(Incision and drainage)**	3	6%
Conservative Followed By Eversion Of Sac	4	8%
Conservative Followed By Varicocelectomy	2	4%
Detorsion With Orchidopexy	2	4%
Eversion Of Sac And Varicocelectomy	1	2%
High Inguinal Orchidectomy	2	4%
Total	**50**	**100%**

Table 5: Distribution of cases according to Urine Culture examination

Organism	No of Cases	Percentage
No growth	35	70%
E. Coli	6	12%
Enterococcus	3	6%
Klesiella Pnemoniae	5	10%
Proteus	1	2%
Total Cases	**50**	**100%**

IV. Results

Out of the total 50 patients included in this study the maximum incidence of patients were in the 21-30 years of age group (Table-1) Left side was more common which was seen in 44% cases (Table-2). Most common diagnosed on the basis of USG was hydrocele.(Table-3) 4% of patients were diagnosed with neoplasm (seminoma) that underwent high inguinal orchidectomy. (Table-4) Most common organism found on urine culture and sensitivity analysis was E.Coli in 12% of cases (Table 5) but maximum patients had no growth seen in their urine culture and sensitivity.

V. 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.[12] 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.[13,14,15] Trauma, hormones such as diethylstilboestrol, and non-specific mumps-associated testicular atrophy have also been implicated as risk factors.

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[16] and with other multiple studies [17, 18, 19.] USG findings in our setting revealed Hydrocele as most prominent cause of scrotal swellings i.e. 40%, followed by Varicocele 20%, acute epididymitis 14%, Acute epididmo-orchits 6%. Testicular neoplasm was diagnosed as 4% 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 32% patients, and Varicocelectomy for varicocele in 12% of patients, Incision and drainage procedure was put into practice for 6% of patients suffering from scrotal abscess whereas Conservative means followed by Eversion of Sac in 8% of patients and Conservative Management followed by Varicocelectomy in 4% of patients, Detorsion with Orchidopexy in 4% of patients and High Inguinal Orchidectomy in 4% of patients, and Eversion of Sac with Varicocelectomy 2% patients. Testicular Mass was viable in 4% of the cases. And seminoma was the only type of testicular tumor which was found in our study.

VI. Conclusion

The present study was done with a view to evaluate scrotal swellings in terms of their types, presentation and management modalities in 50 consecutive cases of scrotal swellings**,** a clinicopathological & radiological evaluation. 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 1 years (October 2015-September 2016), we concluded as follows. 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 in 4% 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), 32 % patients underwent e*version of sac*(Jaboleys Procedure), Varicocelectomy was done in case of 12 % patients, I And D (Incision and drainage) procedure was put into practice in 6 % patients. Conservative means(antibiotics, scrotal support, analgesics, *etc*) followed by Eversion of Sac in 8 % patients with acute Epididymitis, acute epididmo-orchits along with hydrocele, Conservative management(*antibiotics, scrotal support, analgesics, etc)* with Varicocelectomy was done in 4 % patients with acute Epididymitis, acute epididmo-orchits with varicocele, Detorsion with Orchidopexy was done in 4 % patients, High inguinal Orchidectomy in 4% patients for testicular tumour. 4% 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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