

Original article:

Study of clinical presentation and management of different acute scrotal condition

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Abstract:

Introduction: Testicular cancer represents between 1% and 1.5% of male neoplasm's and 5% of urological tumors in general, with 3-6 new cases/occurring per 100,000 males/year in western society.

Material and methods: The present observational study was conducted for 2 years duration with 60 cases at Department of Surgery , Pravara Rural Hospital and Rural Medical College, PIMS, Loni. Institutional ethical committee clearance was taken before commencement of the study. Written and informed consent were taken.

Results: Out of the three most common signs seen in a scrotal swelling, all patients presented with Tenderness of scrotal swelling i.e. 100%, 54 patients presented with redness i.e. 90%, and 52 patients presented with local rise of temperature over the scrotal swelling which makes 86% of the total patients.

Conclusion: In our study acute epididymo-orchitis was the dominant cause of acute scrotal swelling followed by scrotal abscess. While Pain and swelling in the scrotum was the commonest presenting symptom observed in all cases.

Keywords: acute epididymo-orchitis, Testicular cancer

Introduction

Testicular cancer represents between 1% and 1.5% of male neoplasm's and 5% of urological tumors in general, with 3-6 new cases/occurring per 100,000 males/year in western society¹. Peak incidence is in the third decade of life for non-seminoma and in the fourth decade for pure seminoma. Epidemiological risk factor for the development of testicular tumour are: a history of cryptorchidism or undescended testis, Klienfelter's syndrome, familial history of testicular tumours among first grade relative (father/brothers), the presence of contralateral tumour etc. currently, testicular tumour. Clinical judgement by surgeon is probably the most important factor in assessing testicular salvage. In the face of doubt the next step of management is immediate surgical scrotal exploration. Definite diagnosis of testicular torsion mostly can be confirmed by prompt scrotal exploration. Prognosis is good when the detorsion of the affected testis is performed within first 6 hours.²

Material and methods:

The present observational study was conducted for 2 years duration with 60 cases at Department of Surgery , Pravara Rural Hospital and Rural Medical College, PIMS, Loni. Institutional ethical committee clearance was taken before commencement of the study. Written and informed consent were taken.

Patient selection:

• **Inclusion Criteria:**

- All patients with complaints of acute pain and swelling of scrotum irrespective of age
- Patients willing to give written consent.

• **Exclusion Criteria:**

- patient with painless scrotal swelling
- patient with chronic scrotal pain

Methodology:

- A total of 60 patients following inclusion criteria were included in study,
- Detail history was taken followed by clinical examination to perform probable diagnosis.
- Relevant haematological and radiological investigation were done to confirm the diagnosis.
- Based on diagnosis patient treated conservatively and/ or operatevely.
- Patient monitored post-operatively till discharge. And followed up after discharge for a period of 1 month.
- Findings were tabulated according to the pre-clesinedperforma.

Results:

In present study out of 60 patients maximum no of patients are in age group of 41 - 50 yrs 17 (28.3%) followed by 11(18.3%) patients in 61-70 yrs i.e.. Minimal patients were found in the extremes of age with 1 out of 60 patients i.e. 1.6% in the age groups of 1-10 yrs as well as 11-20 yrs and no patients in the age group of above 70 years.

In our study all 60 patients presented with complaint of pain and swelling.

Patients were divided into three groups according to the duration of symptoms namely group 1(1-3 days), group 2 (4-6 days), group 3 (7-9 days) . Maximum patients are in group 1 of duration of symptoms of 1-3 days (53.3%) and minimum patients in group 3 with duration of symptoms of 6-9 days (11.5%).

TABLE NO 1: Distribution of sign:

SI no	Signs	No of patient	percentage%
1	Redness	54	90%
2	Tenderness	60	100%
3	Local temperature	52	86%

The above table shows that out of the three most common signs seen in a scrotal swelling, all patients presented with Tenderness of scrotal swelling i.e. 100%, 54 patients presented with redness i.e. 90%, and 52 patients presented with local rise of temperature over the scrotal swelling which makes 86% of the total patients.

TABLE NO 2: Distribution according to side involved:

Site of swelling	No of cases	Percentage (%)
Right	27	45%
Left	20	33.3%
Bilateral	13	21.6%
Total	60	100%

The above table shows that most cases included unilateral scrotal swellings with 27 patients presenting on RIGHT side (45%) and 20 patients on LEFT (33.3%). Number of Patients with bilateral scrotal swellings is 13 out of 60 (21.6%).

TABLE NO 3 MANAGEMENT: Distribution as per there management

SI no	No of patients	Percentage(%)
Conservative	31	51.6%
B/L orchidopexy	3	5%
Orchideetomy with orchidopexy	5	8.3%
Debridement	7	11.6%
Incision and drainage	14	23.3%

The above table shows that maximum patients were managed conservatively (51.6%) which were diagnosed as epididymoorchitis and haematocoele . The number of patients who underwent incision and drainage are 14 i.e. 23.3% diagnose as scrotal abscess; patient diagnosed as fournier’s underwent debridement are 7 i.e. 11.6%.; who underwent orchideetomy or orchidopexy are 5 i.e. 8.3%; who underwent B/L orchidopexy is 3 i.e. 5%

Discussion:

The present study consisted of analysis of 60 patients who got admitted to P.M.T, Loni with acute scrotal swelling during the period of September 2014 to August 2016. The mam objective was patients with acute scrotum was to diagnose testicular torsion without delay, towards which clinical evaluation seems to be very useful and can be well correlated with USG scrotum with colour doppler.

Age of the patient is an important factor. Peak incidence of testicular torsion is in the pubertal age group (12-17 years)³ but in our series the age incidene is ranging from 2 to 62 years 4 cases (50%) were below age of 20years and

4 cases(50%) were above age of 20 years i.e. 35,39,40 and 62 respectively. Epididymitis occurs at a later age⁴, and Cranston and Moisey⁵¹ suggested that it is unsafe to make a diagnosis of epididymitis below 25 years of age. In our study 20(91%)patient were above 20years and 2(9%)i.e. 2month and 20 year were below 20 years. Nature of onset and duration of pain is another important factor. In epididymitis die pain is usually insidious in onset with a longer duration of pain at presentation, in comparison to testicular torsion where the pain is of sudden onset with a short duration of pam at presentation ' ‘.

Fever and dysuria are more common in epididymitis with reported incidences of 75 and 33%, respectively⁵⁴ , however a small proportion of patients with testicular torsion may also have these symptoms.⁵³ In our study 16(72.7%) had fever and 18(81.8%) patients had urinary complain.

Though there is considerable overlap in the clinical signs, there are a few differentiating features. Erythema of the scrotum is more common in epididymitis⁵⁴ and thickening and tenderness of the cord more common in cases of testicular torsion⁵ . In our study 4-50% cases presented with thickning and of cord and all cases presented with tenderness. None of case presented with erythma of scrotom. The cremasteric reflex has been reported to be absent in patients with testicular torsion and retained in others⁶ but in our study we found it difficult to elicit the sign in the presence of severe pain.

The transverse elevated lie of the testis described in 46% by Kadish and Bolte^{52,5} in testicular torsion. It was observed in only 2 (25%) patients in our study. Leukocytosis and pyuria have been reported to occur in around one thirds of patients with epididymitis³⁴, but is occasionally observed in some patients with testicular torsion⁷, hi our study 16(72.7%)patients had leukocytosis and no patient had pyuria. Hence testicular torsion must be considered even in these patients if the clinical presentation is suspicious.

Ultrasonography with colour Doppler study have been regarded to be highly reliable and beneficial in avoiding an unnecessary exploration³⁷. However, the role of sonography has been under debate with respect to accuracy, availability, cost, delay in treatment, and as the procedure is operator-dependent ' ' . In our experience, sonography was accurate in all (100%) patients with testicular torsion, where it was most critical to make the correct diagnosis. Sonography was also accurate in patients with epididymitis. Melekoset al.⁴⁹ similarly reported accuracy of 50% in testicular torsion and 80% in other scrotal conditions. In the 8 patients lost to follow-up in our series there may have been some instances of missed testicular torsion. Reports in the literature have suggested that ultrasonography for testicular torsion has a specificity of almost 100%, but the sensitivity varies from 50 to 100%^{8,9,10} We therefore suggest that sonographic interpretation must be in correlated with the clinical diagnosis, and patients in whom torsion testis is strongly suspected clinically should be subjected to exploration even if the Doppler flow is good. The value of ultrasonography is mainly in patients in whom the diagnosis of testicular torsion seems unlikely, in order to confirm the presence of blood flow. It may also be used to confirm the diagnosis when the duration of symptoms in testicular torsion indicate a dead testis, and in patients with epididymitis in order to diagnose complication, such as abscess formation, which require surgical drainage¹¹ In our study all cases of epididymitis were diagnosed on USG and colour Doppler study and clinically corelated. Torsion of testis was rouled out hence unnessery exploration was avoided.

Radionuclide scan has been reported to be more accurate in diagnosing testicular torsion⁹. However, we did not use this method as this facility is not available to us. Melekoset al.⁴⁹ reported that decreased perfusion in edematous testicles in 2 cases of epididymitis mimicked testicular torsion and resulted in surgical exploration. Also, 5% of patients with testicular torsion can appear to have satisfactory flow because of persistent testicular arterial perfusion if the degree of torsion is only 180-360°. The role of radionuclide scan is probably for establishing the diagnosis in cases of missed testicular torsion. Finally, the experience of the clinician seems to be a very important factor in accurate diagnosis. Corbett and Simpson⁶¹ reported that in their series the correct diagnosis of testicular torsion was made in 39% of patients by casualty doctors, in 53% by urology registrars and in 76% by specialists. The majority of instances of wrong diagnosis were due to an over diagnosis of testicular torsion. In our study all cases of torsion of testis were diagnosed clinically and radiologically.

Conclusion:

In our study acute epididymo-orchitis was the dominant cause of acute scrotal swelling followed by scrotal abscess. While Pain and swelling in the scrotum was the commonest presenting symptom observed in all cases.

References:

1. Mittemeyer BT, Lennox KW, Borski AA: Epididymitis: A review of 610 cases. *J Urol* 1966; 95: 390-392.
2. Cranston DW, Moisey CU: The management of acute scrotum pain. *Br J Surg* 1983; 70: 505-506.
3. Glabeke EV, Khairouni A, Larroquet M, Audry G, Gmner M: Acute scrotal pain in children: Results of 543 surgical explorations. *PediatrSurgInt* 1999; 15: 353-
4. Anderson J, Williamson R: Testicular torsion in Bristol: A 25 year review. *Br J Surg* 1988; 75: 988-992.
5. Luzzi GA, O'Brien TS: Acute epididymitis. *BJU Int* 2001; 87: 747-55.
6. Rabinowitz R: The importance of the cremasteric reflex in acute scrotal swellings in children. *J Urol* 1984; 132: 89.
7. Kadish HA, Bolte RG: A retrospective review of pediatric patients with epididymitis, testicular torsion and torsion of testicular appendages. *Paediatrics* 1998; 102: 73-76.
8. Weber DM, Rosslein R, Fliegel C: Color Doppler sonography in the diagnosis of acute scrotum in boys. *Eur J PediatrSurg* 2000; 10: 235- 241.
9. Cuckow PM, Frank JD: Torsion of the testis. *BJU Int* 2000; 86: 349-353.
10. Baker LA, Sigman D, Mathews RI, Benson J, Docimo SG: An analysis of clinical outcomes using color Doppler testicular ultrasound for testicular torsion. *Pediatrics* 2000; 105: 604— 607.
11. Nussbaum Blask AR, Bulas D, Shalaby-Rana E, Rushton G, Shao C, Majd M: Color Doppler sonography and scintigraphy of the testis: A prospective, comparative analysis in children with acute scrotal pain. *PediatrEmerg Care* 2002; 18: 67-71.