

To study the clinical presentation of various types of scrotal emergencies at RNT Medical College, Udaipur

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Background- Acute scrotal emergencies are one of the more challenging clinical dilemmas in surgery.

Methods- This study consisted of 60 patients of acute scrotal emergencies who were admitted in Department of Surgery in MB Govt. Hospital attached to RNT Medical College, Udaipur from July 2015 to December 2016.

Results- All patients had complains of pain and testicular swelling. Burning micturation was present in 8(14%) of cases. 37(62%) patients had fever. Symptoms of intestinal obstruction were present in 4(7%) patients. , 7(12%) patients presented with symptom duration less than 6 hours. 29(48%) patients presented within 2 days. 15(52%) had symptom duration 2-5 days. 5(17%) had symptom duration 5-7 days. 4(7%) had symptom duration more than 7 days.

Conclusion- Acute scrotum was found to be more common in younger age group. Epididymoorchitis was found to be commonest scrotal emergency followed by testicular torsion, scrotal abscess, scrotal trauma and obstructed hernia.

Keyword- Scrotal, Epididymoorchiti, Emergencies, obstructed hernia.

Introduction

Acute scrotal emergencies are one of the more challenging clinical dilemmas in surgery. Acute scrotal

emergencies can affect the entire life of the patient in the form of sterility. So needs careful examination, proper evaluation and aggressive treatment. Follow up is essential to find out the complications in the form of sterility so as to take the total care of the patient.

Acute scrotum is defined as "the acute onset of pain and swelling of the scrotum that requires either emergency surgical intervention or specific medical therapy." Patients presenting with acute scrotal pain to the emergency department require a timely diagnosis. Although the differential diagnosis can be extensive and varies with age, there are a few conditions that are considered true surgical emergencies. These include torsion of the spermatic cord, incarcerated hernia with strangulation, testicular trauma leading to rupture or organ-threatening hematomas, and Fournier's gangrene. These are conditions that need to be kept in mind by the physician when approaching such patients. Other causes such as epididymitis or orchitis need to be distinguished, and although not requiring emergency surgery, still require urgent diagnosis and treatment. Diagnostic ultrasound can accurately diagnose many acute conditions of the scrotum, and emergency physicians have come to utilize it to advance their diagnostic acumen. This educational review article discusses the current literature and the use of emergency ultrasound in patients presenting

with scrotal pain as well as scanning approaches and common sonographic findings. Several acute scrotal conditions can present in similar way, testicular torsion is by far the most significant. Testicular torsion is a true surgical emergency because, the likely hood of testicular salvage decreases, as the duration of torsion increases. The other conditions that present in similar way to testicular torsion includes torsion of appendix testis, epididymo-orchitis, fourniers gangrene, trauma to testis, haematocele, pyocele and obstructed or strangulated inguino scrotal hernia etc.^{1,2}

Materials and Methods

This study consisted of 60 patients of acute scrotal emergencies who were admitted in Department of Surgery in MB Govt. Hospital attached to RNT Medical College, Udaipur from July 2015 to December 2016.

Source of Data

Data were collected through prescribed proforma among the patients in surgical outdoor or admitted at the general surgery department, RNT Medical College, Udaipur with acute scrotal emergencies.

Methods of Collection Of Data

History, clinical features, symptomatology, investigations, operative findings and post operative complications were entered in proforma and analysed.

Inclusion Criteria

All patients with complaints of acute scrotal pain irrespective of age were included in study.

Exclusion Criteria

Scrotal skin infective pathology e.g. cellulitis, Fournier’s gangrene will be excluded from this study.

The following investigations will be done in management of acute scrotal swellings:

- 1) Routine blood investigations - Hb, Total count, Differential count, ESR,
- 2) Random Blood Sugar

- 3) Blood urea, Serum creatinine.
- 4) Ultrasonography of scrotum
- 5) Colour Doppler scan of scrotum

Observations

Table 1: Age in cases of acute scrotal emergencies (n=60)

S.N o.	Type of scrotal emergency	Age group in years									
		0-10		10-20		21-40		41-60		>60	
		N	%	N	%	N	%	N	%	N	%
1	Epididymo orchitis (n=29)	0	0	0	0	13	45	12	41	4	14
2	Testicular torsion (n=10)	0	0	5	50	2	20	3	30	0	0
3	Testicular abscess (n=8)	0	0	0	0	5	62	2	25	1	12
4	Testicular trauma (n=8)	0	0	1	12	6	75	1	12	0	0
5	Obstructed hernia (n=4)	0	0	0	0	3	75	1	25	0	0
6	Painful scrotal sinus (n=1)	0	0	0	0	0	0	0	0	1	100
	Total (60)	6		29		19		6			
	%	10%		48%		32%		10%			

In the present study, there were 6(10%) patients in 0-20 age group. We found maximum 29(48%) patients in age group 21-40 year. 41-60 years of age group had 19(32%) patients .6(10%) patients were found in age group >60 years.No patient of epididymoorchitis was present in age group 0-10 and 10-20 years of age group. Out of 29 patients of epididymoorchitis, 13(45%) were in age group 21-40 years. 12(41%) patients were in age group 41-60 years. 4(14%) patients were above 60 years of age.

Table 2: Symptoms observed in cases of acute scrotal emergencies (n=60)

S.No.	Type of scrotal emergency	Symptoms									
		Scrotal swelling		Pain		Fever		Burning micturation		Symptoms of intestinal obstruction	
		No	%	No	%	No	%	No	%	No	%
1	Epididymo orchitis (n=29)	29	100	29	100	25	86	8	27	0	0
2	Testicular torsion (n=10)	10	100	10	100	2	20	0	0	0	0
3	Scrotal abscess (n=8)	8	100	8	100	8	100	0	0	0	0
4	Testicular Trauma (n=8)	8	100	8	100	0	0	0	0	0	0
5	Obstructed hernia (n=4)	4	100	4	100	2	50	0	0	4	100
6	Painful scrotal sinus (n=1)	1	100	1	100	0	0	0	0	0	0
	Total (60)	60		60		37		8		4	
	%	100%		100%		62%		14%		7%	

The present study shows patients had different types of symptoms at the time of admission. All patients had complains of pain and testicular swelling. Burning micturation was present in 8(14%) of cases. 37(62%) patients had fever. Symptoms of intestinal obstruction were present in 4(7%) patients.

All patients of epididymo orchitis had pain and scrotal swelling. 25(86%) had fever and 8(27%) had burning micturation.

All patients of testicular torsion had pain and scrotal swelling. 2(20%) patients had fever. None of them had burning micturation.

Table 3: Duration of symptoms in cases of acute scrotal emergencies (n=60)

Type of scrotal emergency	Duration of symptoms									
	Within 6 hours		6 hrs.-2 days		2-5 days		5-7 days		>7 days	
	No	%	No	%	No	%	No	%	No	%
Epididymoorchitis(n=29)	0	0	17	58	8	27	2	7	2	7
Testicular torsion (n=10)	4	40	5	50	1	10	0	0	0	0
Scrotal abscess (n=8)	0	0	1	12	3	37	3	37	1	12
Testicular trauma (n=8)	3	37	3	37	2	25	0	0	0	0
Obstructed hernia (n=4)	0	0	3	75	1	25	0	0	0	0
Painful scrotal sinus (n=1)	0	0	0		0		0	0	1	100
Total(60)	7		29		15		5		4	
%	12%		48%		52%		17%		7%	

In the present study, 7(12%) patients presented with symptom duration less than 6 hours. 29(48%) patients presented within 2 days. 15(52%) had symptom duration 2-5 days. 5(17%) had symptom duration 5-7 days. 4(7%) had symptom duration more than 7 days.

Above study shows that 17(58%) patients of epididymoorchitis had symptoms less than 2 days of duration. 8(27%) patients had symptom duration between 2 to 5 days. 2(7%) patients had symptom duration between 5 to 7 days and 2(7%) patients presented with having symptoms more than 7 days.

In this study, 4(40%) patients of torsion testis had symptoms less than 6 hour duration. 5(50%) patients had symptom duration more than 6 hours to 2 days. One patient presented with 3 days of symptom duration.

Table 4 :Complaints to the side of the scrotum in cases of acute scrotal emergencies (n=60)

S.No.	Type of scrotal emergency	Right side		Left side		Bilateral	
		No.	%	No.	%	No.	%
1	Epididymoorchitis (n=29)	11	38	14	48	4	14

2	Testicular torsion (n=10)	8	80	2	20	0	0
3	Scrotal abscess (n=8)	3	38	4	50	1	13
4	Testicular trauma (n=8)	2	25	3	38	3	38
5	Obstructed hernia (n=4)	2	50	2	50	0	0
6	Painful scrotal sinus (n=1)	1	100	0	0	0	0
	Total (60)	27		25		8	
	%	45%		42%		13%	

In the present study, 27 (45%) patients had disease on right side of scrotum while 25 (42%) patients had on left side of scrotum. 8 (13%) patients had bilateral disease.

11(38%) patients had right sided epididymoorchitis, 14(48%) patient had left sided epididymoorchitis and 4(14%) had bilateral disease.

8(80%) patients had torsion of right testis and 2(20%) had torsion of left testis.

In 3(38%) cases of scrotal abscess right testis was involved and in 4(50%) cases left testis was involved. 1(13%) patient had bilateral testicular abscess.

In cases of testicular trauma, 2(25%) patients had right sided testicular injury, 3(38%) patients had left sided testicular injury and 3(38%) patients had bilateral testicular injury.

2(50%) patients had right sided incarcerated hernia and 2(50%) patients had left sided obstructed hernia.

One patient of painful scrotal sinus had involvement of right scrotum.

Table 5: Incidence of various types of scrotal emergencies (n=60)

S.No.	Disease	No. of patients	%
1	Epididymo orchitis	29	48
2	Testicular torsion	10	17
3	Scrotal abscess	8	13
5	Testicular trauma	8	7
6	Obstructed hernia	4	13
7	Painful scrotal sinus	1	2
	Total	60	100

In the present study, incidence of epididymoorchitis was 48%. Incidence of testicular torsion was 17%. Testicular trauma was present in 13% cases. Obstructed inguinal hernia was present in 7% cases. Scrotal abscess was present in 13% cases. Painful scrotal sinus was present in 1(2%) cases.

Table 6: Suffering from any other disease in cases of acute scrotal emergencies (n=5)

S.No.	Associated disease	No. of patients	%
1	Hydrocele	2	3
2	Inguinal hernia	1	2
3	Fistula in ano	1	2

In the present study, 4 (7%) patients of scrotal emergencies were suffering from other disease while 56 (93%) patients were not suffering from other disease

2(3%) patients had hydrocele, 1(2%) patient had inguinal hernia and 1(2%) patient had fistula in ano.

Discussion

This study consisted of 60 patients of acute scrotal emergencies who were admitted in Department of Surgery in MB Govt. Hospital attached to RNT Medical College, Udaipur from July 2015 to December 2016.

Scrotal swelling is usually most common in 2nd-3rd decade of life. In the present study, there were 6(10%) patients in 0-20 age group. We found 29(48%) patients in age group 21-40 year. 41-60 years of age group had 19(32%) patients. 6(10%) patients were found in age group >60 years.

Campbell (1927) found that the acute scrotal swelling is more common in 2nd-3rd decade of life i.e. incidence of acute scrotum is higher during the years of maximum sexual activity. In our study, we also found the maximum no. of patients in 21-40 years³.

It has been reported in the literature that the average age of a patient with acute epididymoorchitis is 49 years (Taylor and Thomas, 2015)⁴. Acute epididymoorchitis most commonly occurs in men aged 20-59 years (43% in men aged 20-39 years and 29% in men aged 40-59 years). Childhood (prepubertal) epididymoorchitis is rare; testicular torsion is more common in this age group (Taylor and Thomas, 2015).

All patients of epididymoorchitis had pain and scrotal swelling. 25(86%) had fever and 8(27%) had burning micturation. All patients of testicular torsion had pain and scrotal swelling. 2(20%) patients had fever. None of them had burning micturation. All patients of testicular abscess had pain, scrotal swelling and fever. All patients of trauma had pain and scrotal swelling. All patients of obstructed hernia had pain, inguino scrotal swelling and symptoms of intestinal obstruction. 2(50%) patients had fever. One

patient of painful scrotal sinus had scrotal pain and testicular swelling. Nature of onset and duration of pain is another important factor. In epididymitis, the 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 pain at presentation (Melekos, and Asbach, 2008)⁵. Torsion of testicular appendage may be distinguished from testicular torsion by its more insidious onset and slightly longer duration of pain at presentation, presumably because this condition is less painful (Glabeke et al, 2009)⁶.

In the present study, 7(12%) patients of testicular torsion presented with symptom duration less than 6 hours. 29(48%) patients presented within 2 days. 15(52%) had symptom duration 2-5 days. 5(17%) had symptom duration 5-7 days. 4(7%) had symptom duration more than 7 days.

4(40%) patients of testicular torsion presented within six hours and 5(50%) patients presented more than six hours but less than 2 days.

Bortsch and colleagues (1980)⁷ found that most of the cases of testicular torsion presented as symptoms of duration less than two days. In the present study, we also found that 90% of the patients of torsion testis had symptoms of less than two days.

In the present study, 27 (45%) patients had involvement of right side of scrotum while 25 (42%) patients had involvement of left side of scrotum. 8 (13%) patients had bilateral disease.

11(38%) patients had right sided epididymorchitis, 14(48%) patient had left sided epididymorchitis and 4(14%) had bilateral disease. 8(80%) patients had torsion of right testis and 2(20%) had torsion of left testis.

In 3(38%) cases of scrotal abscess, right testis was involved and in 4(50%) cases left testis was involved. 1(13%) patient had bilateral testicular abscess.

In cases of testicular trauma, 2(25%), patients had right sided testicular injury, 3(38%) patients had left sided testicular injury and 3(38%) patients had bilateral testicular injury.

2(50%) patients had right sided incarcerated hernia and 2(50%) patients had left sided obstructed hernia.

One patient of painful scrotal sinus had involvement of right scrotum. The present study shows that there is almost equal involvement of right or left testis in acute scrotal emergency.

In the present study, epididymo orchitis is the most common scrotal emergency. It was found in 47% of cases. Vinod et al (2015)⁸ reported 10% cases of epididymo orchitis in 120 cases. In the present study incidence of torsion is 17% while Vinod et al (2015)⁸ also found 17% incidence of torsion testis. Incidence of scrotal abscess was 13% in the present study. Obstructed hernia was found in 13% cases.

Conclusion

Acute scrotum was found to be more common in younger age group. Epididymo orchitis was found to be commonest scrotal emergency followed by testicular torsion, scrotal abscess, scrotal trauma and obstructed hernia.

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