

A CLINICOPATHOLOGICAL STUDY OF PATIENTS PRESENTING WITH ACUTE SCROTUM

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ABSTRACT

Background: The aim of the study is to determine the clinical profile of the patients presenting with acute scrotum. Acute scrotum is an emergency condition affecting both children and adults requiring conservative or surgical management.

Methods: This study was carried out in department of General Surgery, Government Medical College, Jammu. A total of 50 cases with acute scrotum were included in the study irrespective of age. Patients with chronic scrotal pain and swelling were excluded from the study.

Results: Acute epididymo-orchitis(28%) was most common cause of acute scrotal swelling followed by Fournier's gangrene(18%). 18% of the patients presented with history of trauma. Majority of cases presented in the age group of 21-40 years. Most of the cases with testicular torsion were below the age of 20 years. Almost all the patients presented with pain while 94% of the patients presented with scrotal swelling. Urinary symptoms were usually seen in epididymo-orchitis and Fournier's gangrene.

Conclusion: Acute scrotum require immediate evaluation and treatment. The early diagnosis is important to avoid testicular loss. Usg color doppler is employed as investigation of choice to the final diagnosis. Majority of cases of epididymo-orchitis can be managed conservatively while early surgical intervention is needed in cases of torsion testes, Fournier's gangrene, scrotal abscess, testicular abscess and traumatic acute scrotum.

Keywords: torsion, epididymo-orchitis, Fournier's gangrene.

INTRODUCTION

The male external genitalia consist of the penis, scrotum, and paired testis. The scrotum is a surprisingly complex structure consisting of a muscular sac covered with a unique epidermal layer with no fat but many sebaceous and sweat glands. The sac divided into two halves by a midline septum of dartos muscle. Within the scrotum are the right and left testicles.

Acute scrotal swellings are one of the common swellings affecting all age groups. Acute scrotum is the acute onset of pain and swelling of the scrotum which requires either specific medical treatment or emergency surgical intervention. The most urgent cause of the acute scrotum is testicular torsion. Testicular torsion occurs when arterial blood supply is compromised by a twist in the spermatic cord, creating occlusion of the spermatic cord and loss of vascular supply. The other conditions which presents in similar way to testicular torsion are torsion of appendix of testes, epididymo-orchitis, testicular trauma, haematocele, strangulated inguinal hernia, etc. The majority of external genital trauma is blunt in nature, although 40-60% of penetrating injuries to the genitourinary system involve the external genitalia.

The history of the patient and physical examination are key to diagnose the acute scrotal conditions and often help in making decision whether the surgical intervention is required or not. Imaging studies should complement but not replace the sound clinical judgement. The investigations that have been described for management of acute scrotal conditions include urine examination, ultrasonography, Doppler scan and radionuclide scanning. The primary objective of the management of acute scrotum is to avoid testicular loss. A high index of suspicion is necessary on the part of treating physician to ensure rapid diagnosis and treatment. The best confirmatory radiological study in acute scrotal pain is color Doppler ultrasound of the scrotum. However, testicular salvage critically depends on early intervention, so the delay occurred in imaging studies may serve to extend the period of testicular ischaemia and jeopardise the prospect of testicular salvage in the setting of testicular torsion. For blunt scrotal injuries, scrotal ultrasound may be helpful in determining whether the testes are ruptured. Key finding in ultrasound indicating testicular injury are loss of testicular contour of tunica albuginea and heterogenous echotexture of testicular parenchyma.

AIMS AND OBJECTIVES

To study the clinical profile of patients presenting with acute scrotum in a tertiary care centre in Jammu.

MATERIALS AND METHODS:

This observational study was conducted in the department of General Surgery, Govt. Medical College Jammu.

INCLUSION CRITERIA:

All the patients presenting with acute pain and/or swelling in the scrotum were included in the study.

EXCLUSION CRITERIA:

Patients with chronic scrotal pain and painless scrotal swelling were excluded.

Patients for the study were taken from those attending surgical emergencies and OPD's as a case of acute scrotum. Demographic details, detailed history followed by thorough clinical examination was done for probable diagnosis. Apart from routine haematological investigations, radiological investigations like USG and Colour Doppler studies were done to confirm the diagnosis.

Results

A total of 50 patients were included in the study. The maximum number of patients were in the age group of 21-40 years (38%), followed by age group of 41-60years (32%).(Table 1)

Out of 50 patients presenting with acute scrotum, 9 had history of trauma.(Table 2)

The most common cause of acute scrotum in the study was epididymo-orchitis(28%) followed by Fournier's gangrene. Scrotal abscess and testicular torsion was seen in 7 patients each.(Table 3)

Right side of the scrotum was involved in 19 patients while 18 patients presented with the involvement of left hemi-scrotum. There was involvement of both side in 26% of the patients.(Table 4)

Pain was the commonest symptom seen in all of the patients followed by swelling which was present in 94% of the patients. Fever was seen in 56% of the patients while dysuria was seen in 12 patients. Dysuria was seen mostly in the cases of epididymo-orchitis and Fournier's gangrene.(Table 5)

Tenderness was present in all the patients while redness of the scrotum was seen in 56% of the patients.

Discussion

In the study, total of 50 patients were included presenting with complaints of acute scrotal pain and swelling. Early diagnosis and intervention is required to prevent testicular loss in patients with testicular torsion. In our study, most of the patients presenting with acute scrotum were in the age group of 21-40 years (38%) followed by 41-60 years of age (32%). 18% of the patients with acute scrotum were of traumatic origin while 82% patients were of non traumatic origin. Right hemi-scrotum was involved in 38%, left being involved in 36% while in rest of the patients bilateral involvement was seen.

In our study, the most common cause of acute scrotum was epididymo-orchitis. 14 (28%) patients were diagnosed as a case of epididymo-orchitis while 9 patients presented to emergency as Fournier's gangrene (18%). 7 patients of acute scrotum were diagnosed as testicular torsion (14%). Scrotal abscess and testicular abscess was seen in 7(14%) and 3(6%) patients respectively. One patient was diagnosed as infected hydrocele. The findings in our study were consistent with the study conducted by Cass et al and Laura Lorenzo and Roman Roge. Majority of the cases of epididymo-orchitis were seen in elderly patients while the patients of testicular torsion belong to younger age group. In patients with testicular torsion, six out of seven were below 20 years of age. The cases of scrotal abscess and testicular abscess were also mostly seen in elderly age group.

All the patients with acute scrotum in the study presented with acute pain while 94% of the patients presented with scrotal swelling. Fever was seen in 22(44%) patients while dysuria was seen in 12(24%) patients. Dysuria was most commonly seen in the patients of epididymo-orchitis and Fournier's gangrene.

Most of the patients of epididymo-orchitis presented with history of fever and pain with swelling and redness of the scrotum. There was also associated thickening of the cord in most of the patients. In testicular torsion, majority of the patients presented with short history of acute severe pain with tenderness.

Usg color Doppler is one of the most reliable investigations in acute scrotum and beneficial in avoiding unnecessary exploration. However, its role is under debate with respect to accuracy, availability, cost, delay in treatment and as procedure is operator dependent. In our study, usg color Doppler was done in all the patients. Testicular torsion and epididymo-orchitis was reported accurately in almost all the patients in our study. Ultrasonography for testicular torsion has specificity of almost 100%, but sensitivity varies from 50- 100% as suggested by reports in the literature. Torsion testes was ruled out in sonography, thus avoiding unnecessary exploration.

Conclusion

Acute scrotum is mostly seen in young and middle age groups. The cases of acute scrotum require immediate evaluation and treatment. The early diagnosis is important to avoid testicular loss as the prognosis directly depends on the time interval between onset of symptoms and definitive intervention. Apart from routine investigations, usg color doppler is employed as investigation of choice to the final diagnosis. Majority of cases of epididymo-orchitis can be managed conservatively while early surgical intervention is needed in cases of torsion testes, Fournier gangrene, scrotal abscess, testicular abscess and traumatic acute scrotum.

Tables

Table 1: Distribution of patients according to age

S.NO.	AGE GROUP	FREQUENCY	PERCENTAGE
1.	≤20	07	14%
2.	21-40	19	38%
3.	41-60	16	32%
4.	>60	08	16%

Table 2: Distribution according to etiology

S.NO.	ETIOLOGY	FREQUENCY	PERCENTAGE
1.	TRAUMATIC	09	18%
2.	NON TRAUMATIC	41	82%

Table 3: Distribution according to diagnosis

S.NO.	DIAGNOSIS	FREQUENCY	PERCENTAGE
1.	EPIDIDYMOORCHITIS	14	28%
2.	FOURNIER GANGRENE	09	18%
3.	TESTICULAR TORSION	07	14%
4.	SCROTAL ABSCESS	07	14%
5.	TESTICULAR ABSCESS	03	06%
6.	INFECTED HYDROCELE	01	02%
7.	TRAUMA	09	18%

Table 4: Distribution according to side of involvement

S.NO.	SIDE	FREQUENCY	PERCENTAGE
1.	RIGHT	19	38%
2.	LEFT	18	36%
3.	BOTH	13	26%

Table 5: Distribution according to symptom

S.NO.	SYMPTOM	FREQUENCY	PERCENTAGE
1.	PAIN	50	100%
2.	SWELLING	47	94%
3.	FEVER	22	44%
4.	DYSURIA	12	24%

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