Testicular Torsion: Case Report & Literature Review

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ABSTRACT

Acute scrotal pain compromises 0.5% of all emergency department visits. Testicular torsion is a true urologic emergency, early diagnosis and treatment are crucial in salvaging the testis. Here we present a case of acute testicular torsion in a young boy which proved that timing is key in saving the testis.

1. INTRODUCTION

"Testicular torsion is a condition wherethe testicle twists around the spermatic cord, resulting in blood flow to the testicle being compromised.It affects 3.8 per 100,000 males younger than 18 years annually"[7]."It accounts for 10% to 15% of acute scrotal disease in children, and results in an orchiectomy rate of 42% in boys undergoing surgery for testicular torsion"[7].

2. CASE REPORT

A 14 years old boy with no comorbids came to the Emergency Department with a complaint of right testicular swelling for 2 days. The pain initially started as abdominal pain at suprapubic region on 28/8/23 around 2 am. He did not seek treatment to the hospital till 10 hours later after failed warm compression and worsening swelling with skin changes. Clinical examination upon arrival finding was the Right scrotum swollen, warmth and tender upon palpation with absence of cremasteric reflex. Otherwise, Contralateral testes was Normal.

Blood investigation taken did not show signs of infection,the white cell count was within normal range.

Urgent Ultrasonography was performed which showed absence of blood flow to the right testes and hence diagnosed as right testicular torsion and proceeded with urgent referral to the Urology team.

Figure 1 Clinical appearance of Scrotum at ED

Figure 2 Doppler USG of Right Testis

During scrotal exploration on the same day, intraoperatively noted Bell Clapper Deformity on the Right testis and it was twisted twice clockwiseand the right testis also non-viable. Urology team decided for Right Orchidectomy based on intraoperative findings andalso did Left Orchidopexy on the Left Testis to prevent future torsion.

Patient was discharged home the following day.

Post operatively he recuperating well at home and discharged from Urology Clinic follow up 6 weeks later.

3. DISCUSSION

"Historically case of Torsion of scrotal organs dating back to 1703, the first described case of surgically treated testicular torsion was by Delasiauve in 1810"[11].

"Testicular torsion is a condition where blood supply to the testis is cut off, the age distribution for testicular torsion is bimodal where one peak at neonates and another at puberty. In neonates,extravaginal predominates with the entire cord, including the processusvaginalis, twisting. While in older children and adults, the testicular torsion is usually intravaginal (twisting of the cord within the tunica vaginalis). It usually presented with the Bell Clapper Deformity in which there is abnormal fixation of the tunica vaginalis to the testicle, results in increased mobility of the testicle within the tunica vaginalis". [13]

As the testicle twists around the spermatic cord, venous blood flow is cut off, leading to venous congestion and ischemia of the testicle. The testicle will become tender, swollen, and possibly erythematous. As the testicle further twists, the arterial blood supply is cut off which leads to further testicular ischemia and eventually necrosis.

The patient usually come to emergency department with a complaint acute onset unilateral testicular pain followed by nausea and vomiting. Other non-specific symptoms are fever and urinary problems. A high riding testis is the hallmark of testicular torsion and the cremasteric reflexes usually absent in this condition.

"Gold standard imaging for diagnosing Testicular Torsion is Doppler Ultrasonography. It is highly sensitive (88.9%) & specific (98.8%) preoperative diagnostic tool with 1% false negative rate"[7].Doppler Ultrasonography demonstrate relative decrease or absent blood flow to the affected testis.

In Emergency setting where Ultrasonography is not available and may delay the treatment
Barbosa *et al*. created Testicular Workup for Ischemia and Suspected Torsion (TWIST) score based on clinical parameters for clinical diagnosis of testicular torsion. The scoring system consists of:

Table 1 : Torsion (TWIST) score based on clinical parameters for clinical diagnosis of testicular torsion

SIGN & SYMPTOMS	POINTS
TESTICULAR SWELLING	2
HARD TESTICLE	2
ABSCENT CREMASTERIC REFLEX	1
NAUSEA OR VOMITING	1
HIGH RIDING TESTIS	1

Based on this scoring, high suspicious patient with testicular torsion can skip the Doppler Ultrasonography and proceeds with the surgery.

"Studies have shown that salvage rate 90-100% if surgical exploration is done within 6 hours, eventually decrease to 50% if symptoms are present for more than 12 hours, and are typically less than 10% if symptom duration is 24 hours or more"[13]

4. CONCLUSION

Testicular torsion is acute surgical emergency, early diagnosing helps in salvaging the testis. Doppler Ultrasonograpy is the imaging of choice in diagnosing however in high suspicious case with high TWIST score, can proceeds with urgent referral to Urology team and Scrotal Exploration.

COMPETING INTERESTS

Author have declared that no competing interests exist

CONSENT

Author declared that informed consent was obtained from patient and approved parties for publication of this case report and accompanying images

ETHICAL APPROVAL

As per international standard or university standards written ethical approval has been collected and preserved by the author(s).

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