

Late Phase Testicular Torsion in Pre-Geriatric Age: A Case Report

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ABSTRACT

Background: Testicular torsion is a urological emergency caused by a twist of *spermatic cord*, which result in testicular tissue *ischemia* and requiring immediate surgery. The incidence occurred generally in children and adolescents, rarely found in adults. Severe Scrotal pain is the most common manifestation of testicular torsion. The definitive treatment for testicular torsion is surgery, either one of *orchidopexy* or *orchidectomy*. The prognosis of testicular torsion depends on the onset of symptoms and the decision time for surgery.

Case Report: A 52-year-old man presented to emergency department with a history of gradual severe right-sided scrotal pain (*visual analogue scale* 8) radiated to the right groin in the last 3 day before admission. Previously, the patient's genitals were hit by the table. On physical examination, the testicles were found to be asymmetrical, swollen, redness, tenderness, and the testicle felt hard and immobilized, either the *cremaster reflex* or the *Phren sign test* were negative. The TWIST score was 6 (high risk for testicular torsion). *Orchidopexy* and *orchidectomy* were performed immediately without *Scrotal Doppler Ultrasonography* due to operational problems. Histopathology examination of the *orchidectomy* specimen impression showed an inflammation sign with exudative fluid presentation.

Conclusion: Gradual Severe scrotal pain manifestations should be suspected as testicular torsion as soon as possible before it evolves into later phase. One of the causes of late phase testicular torsion is late admission to Hospital. Surgical emergency action should be taken considering the emergency state without waiting for ideal *sonography*.

KEYWORDS: Scrotal Pain, Late phase, Testicular torsion, Pre-Geriatric age, Orchidectomy

ARTICLE DETAILS

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BACKGROUND

Testicular torsion is a urological emergency caused by a twist of *spermatic cord*, which result in testicular tissue *ischemia* and requiring immediate surgery.^{1,2} The incidence occurred generally in children and adolescents, rarely found in adults. Severe Scrotal pain is the most common manifestation of testicular torsion. The definitive treatment for testicular torsion is surgery, either one of *orchidopexy* or *orchidectomy*. The prognosis of testicular torsion depends on the onset of symptoms and the decision time for surgery.^{3,4,5}

CASE REPORT

A 52-year-old man came with complaints of severe pain in the right scrotum (*visual analogue scale* 8), worsening since three days before hospital admission. The pain was continuous and increasingly severe, radiating towards the

right groin. Previously, the patient's genitals were said to have hit a table while working. Urination was within normal limits.

On physical examination, the testicles were found to be asymmetrical, swollen, redness, tenderness, and the testicle felt hard and immobilized, either the *cremaster reflex* or the *Phren sign test* were negative. Laboratory support showed leukocytosis (17,010 u/L), and neutrophilia (81.6%), indicating inflammation of the testis. Based on the history and physical examination, the criteria supported a diagnosis of testicular torsion due to blunt trauma, with a plan for right orchidectomy. Histopathology examination of the *orchidectomy* specimen impression showed an inflammation sign with exudative fluid presentation.



Figure 1. The right testis appears swollen, reddish, and asymmetric

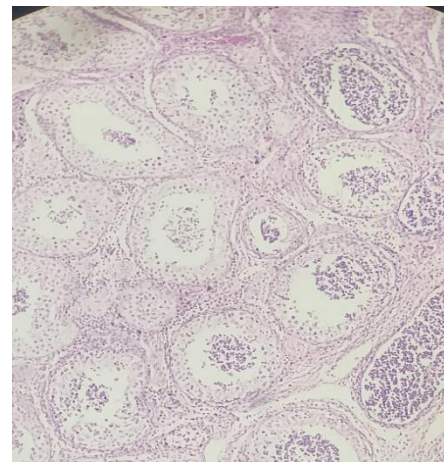


Figure 2. Histopathology examination showed an inflammation

DISCUSSION

The epidemiology of testicular torsion is more common in male adolescents and neonates. About 65% of testicular torsion cases occur between the ages of 12-18 years.^{2,3,4} In America, the incidence of testicular torsion is 4.5 cases per 100,000 males aged 1-25 years, 3.8 cases per 100,000 males under 18 years, and 1.1 cases per 100,000 males across all age groups.^{1,6} This is similar to the incidence in Taiwan, at 3.5 cases per 100,000 males under 25 years, and in Korea, at 2.9 cases per 100,000 males under 25 years.⁴

In our case, the patient was 52 years old, classified as pre-geriatric according to the 2013 Ministry of Health classification. Given the above epidemiology, testicular torsion in our 52-year-old patient is a rare case. A possible etiology is abnormalities in the tunica vaginalis. The previous trauma to the genitals likely caused the testis to become unfixated, resulting in torsion. This condition disrupts blood flow to the testis, leading to tissue ischemia, which triggers tissue damage through inflammatory reactions and the release of free radicals.^{3,7}

In adults, epididymitis is the most common cause of testicular pain. Other causes include hydrocele, epididymitis, orchitis, trauma, and malignancy. A study reported that about 6.4% of testicular torsion cases are associated with testicular cancer.⁸ Another study found that out of 20 adult testicular torsion patients who underwent orchiectomy, two were diagnosed with testicular cancer.⁹ Therefore, it is important to perform histopathology examination to rule out malignancy. Our surgeon did not neglect to perform histopathology and citopathology examination of the patient's specimen. The results showed exudative fluid as an indicator of inflammatory mechanisms, with no signs of malignancy

Rapid and accurate anamnesis and physical examination play a crucial role in diagnosing testicular torsion. Thus, the decision to perform orchidectomy and orchidopexy surgery can be made promptly. The shorter the time needed for surgery, the better the viability of the necrotic testicular tissue.^{5,7} Data reports that around 90-100% of testicular tissue can be saved if surgery is performed within 6 hours of symptom onset, this decreases to 50% if done within 12 hours, and only 10% if more than or equal to 24 hours.^{10,11} It should also be noted that patient delays in visiting the emergency department play a significant role, as in our patient's case, where the patient came to the emergency department three days after symptom onset.

For patients with a strong history and physical examination pointing to testicular torsion, a color Doppler ultrasound is not mandatory if it might delay surgery (evidence rating C).^{12,13,14} Delays in surgical management impact the duration of testicular ischemia. In our case, ideal supporting examinations were not feasible, so after calculating the TWIST (testicular workup for ischemia and suspected torsion) score based on clinical findings such as severe scrotal pain, swollen testis, hard thickened testis, negative cremasteric reflex, and higher/asymmetric testis position, a high-risk interpretation was obtained (TWIST score was 6).^{1,3,15} Therefore, our surgeon decided to proceed with surgery immediately with the available modalities to achieve the best prognosis.

The main management for testicular torsion is surgery. Surgery is generally performed by scrotal exploration for orchidopexy and orchidectomy to remove necrotic or nonviable testicular tissue.^{1,3} Considering that our patient experienced a late-phase testicular torsion due to delayed presentation after symptom onset, orchidectomy was the rational surgical management

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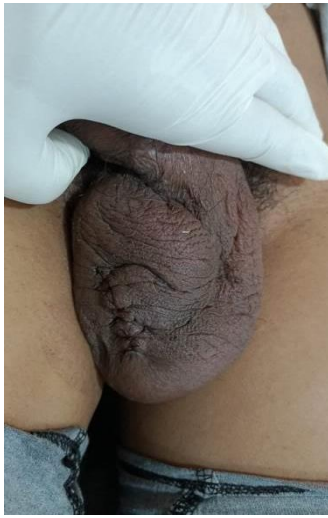


Figure 3. The post-orchidectomy wound appears dry and not bleeding.

CONCLUSIONS

Gradual Severe scrotal pain manifestations should be suspected as testicular torsion as soon as possible before it evolves into later phase. One of the causes of late phase testicular torsion is late admission to Hospital. Surgical emergency action should be taken considering the emergency state without waiting for ideal *sonography*.

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