

Case Report

A Case of Torsion of the Undescended Testis

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Abstract: This article presents the case of a 14-year-old male who experienced acute torsion of an undescended testis located in the right inguinal canal. The patient presented with severe right inguinal pain. Imaging studies, including CT and MRI, revealed the underlying pathology. Intraoperative findings confirmed testicular necrosis, necessitating an orchiectomy. This report aims to highlight the clinical presentation, radiological findings, and surgical management of this condition, supplemented with relevant images.

Keywords: Testicular Torsion, Undescended Testis, Inguinal Canal, Testicular Ischemia, Orchiectomy.

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INTRODUCTION

Testicular torsion is a urologic emergency with annual incidence less than 0.004% for males ≤ 18 [1]. Torsion must be promptly identified and rapidly treated due to risk of ischemia and infertility. Ideally, surgical management should be completed within six hours as testicular salvage rates are reportedly 90% or greater within this window [2, 3]. Beyond six hours, salvage rates progressively decline and are virtually zero by 48 hours [4].

Torsion of an undescended testis is a rare but serious urological emergency that requires prompt diagnosis and treatment to prevent irreversible testicular damage. This condition is particularly challenging when the testis is located in the inguinal canal. This case report details the presentation, imaging findings, surgical intervention, and outcome of a 14-year-old boy with acute torsion of an undescended testis.

CASE PRESENTATION

A 14-year-old boy presented to the emergency department with sudden onset of severe pain in the right inguinal region. The pain was associated with nausea and vomiting. The laboratory investigations shows mild inflammatory markers rising.

Physical Examination

On examination, there was tenderness and swelling in the right inguinal region. The right scrotum was empty, and the testis was not palpable in its normal anatomical position. Left tests palpable in normal scrotal position.

Imaging Studies

• CT Scan:

A CT scan of the abdomen and pelvis was performed, revealing an undescended testis in the right inguinal canal with evidence of twisting of the spermatic cord, suggestive of torsion. (IMAGE 1)



Image 1: CT scan axial and coronal shows enlargement and rim enhancement of right testicle located in inguinal canal (white arrow). Note also fat stranding in the right inguinal canal and anterior subcutaneous tissues,

• **MRI:**

An MRI of the pelvis confirmed the presence of the undescended testis in the right inguinal canal. There

was heterogeneous signal intensity within the testis, consistent with hemorrhage and necrosis. The spermatic cord appeared twisted, confirming the diagnosis of torsion. IMAGE 2

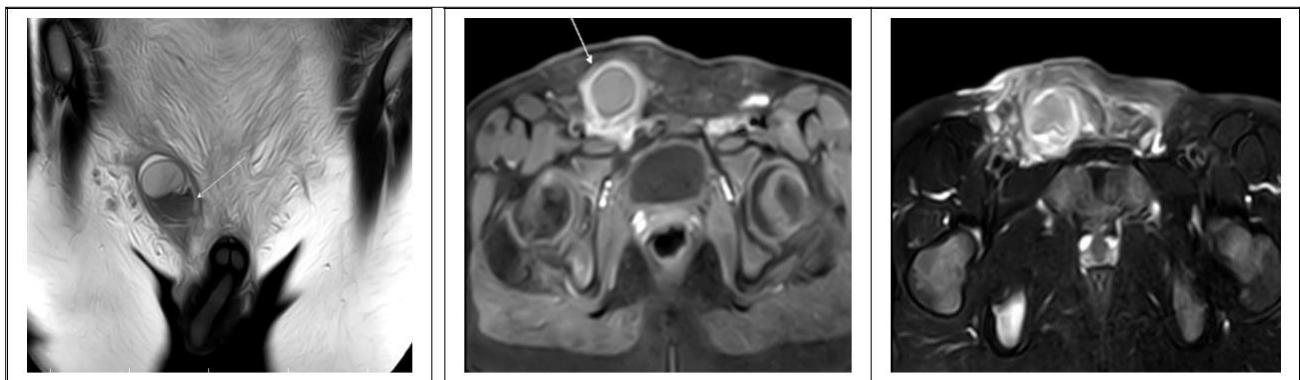
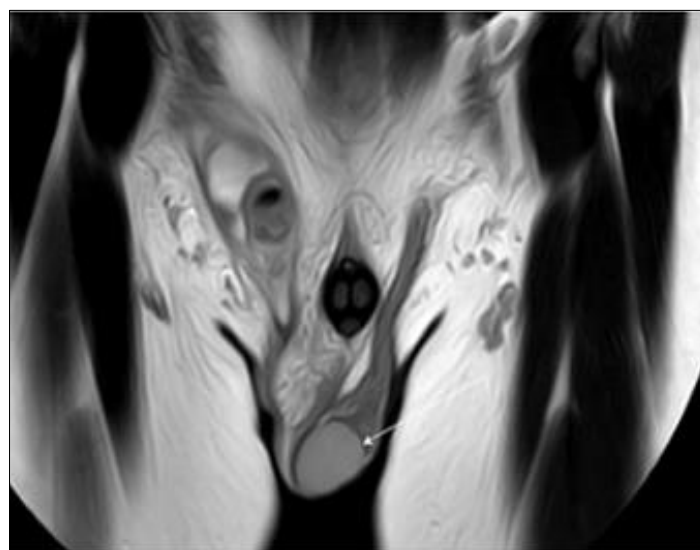


Image 2 A: abnormal positioning and twisting of the spermatic cord. Enlarged with heterogeneous signal intensity; areas of hypointensity on T1-weighted images and hyperintensity on T2-weighted images



B -Coronal T2 shows Left Testis Normal in size, location in scrotum

Intra-Operative Findings

The patient was taken to the operating room for emergency exploration. Intraoperative findings revealed

a necrotic testis in the right inguinal canal with a twisted spermatic cord. An orchiectomy was performed to remove the necrotic testis. IMAGE 3

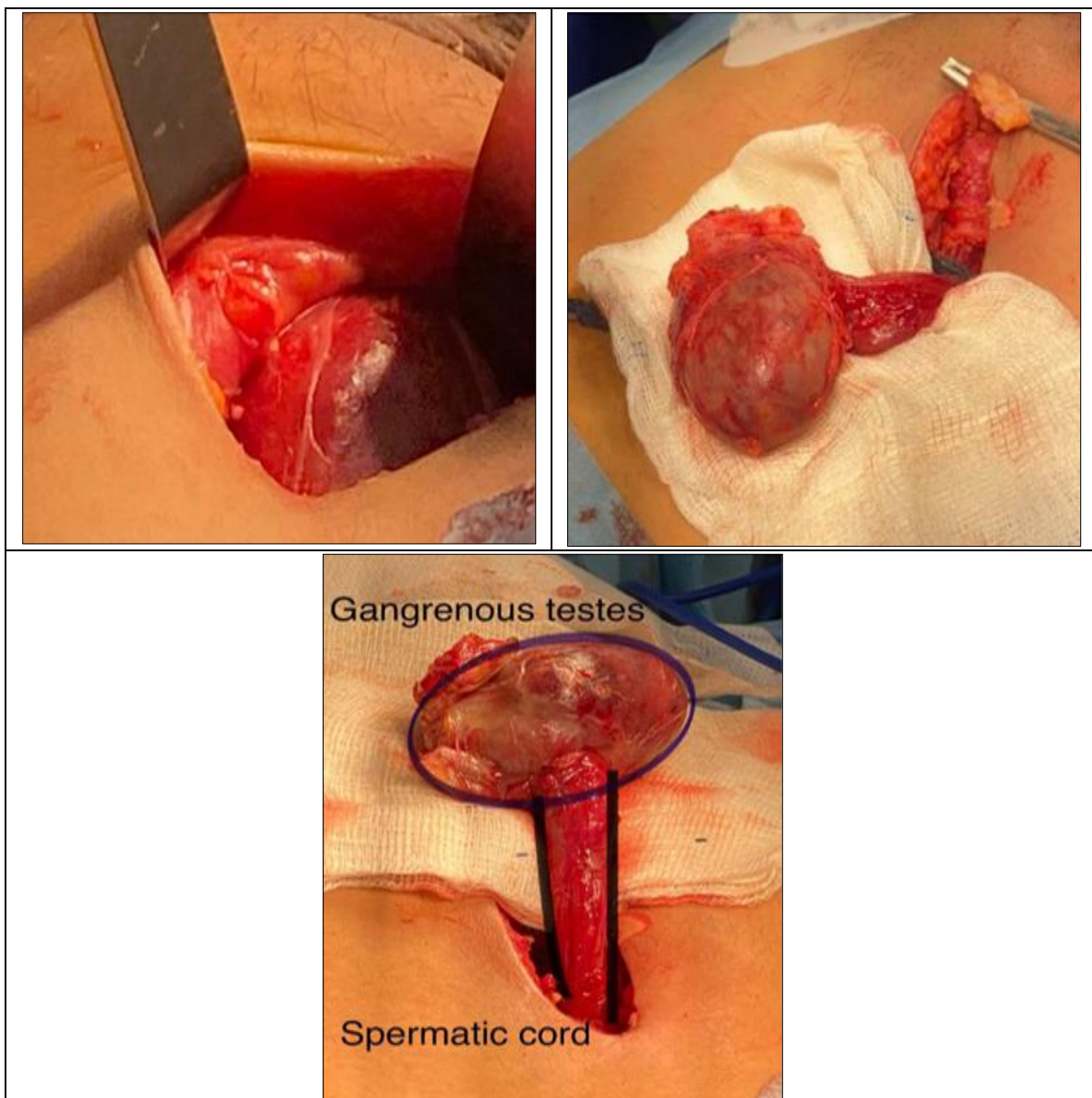


Image 3 A: Localization of the testis at level of superficial inguinal ring, B & C -gangrenous testis in the right inguinal canal with a twisted spermatic cord

DISCUSSION

Torsion of an undescended testis is an uncommon but urgent condition that can lead to testicular necrosis if not treated promptly. The absence of the testis in the scrotum often delays diagnosis. Imaging studies, such as CT and MRI, are crucial in identifying the location of the undescended testis and confirming torsion.

In this case, the rapid diagnosis and surgical intervention were essential in managing the patient's condition. The CT and MRI findings provided clear evidence of torsion and necrosis, guiding the surgical team in their approach.

CONCLUSION

This case underscores the importance of considering testicular torsion in patients with undescended testes who present with acute inguinal pain. Prompt imaging and surgical intervention are vital in preventing complications. This report adds to the limited literature on this rare condition and highlights the role of radiological imaging in its diagnosis and management.

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