



# Conservative vs. Surgical Treatment for Large Hematocele with Intact Tunica Vaginalis: An Ongoing Debate with Two Clinical Case Reports



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## Abstract

Two cases had blunt scrotal trauma that led to large hematocele and Ultrasound confirmed that tunica vaginalis was intact. Both patients were offered conservative treatment, which included bed rest, anti-inflammatory medications, and antibiotics. One patient reported significant comorbidities and had surgery at a private hospital and the other one tolerated conservative treatment but experienced a significant disability and was away from work for six weeks. We suggest that patients be counseled on the advantages and disadvantages of each treatment option. The choice should be a mutual decision, taking into account the patient's individual circumstances and preferences.

**Keywords:** Testicular Trauma; Testicular Rupture; Scrotal Trauma

## Introduction

The debate persists in the literature concerning testicular traumas with an intact tunica accompanied by a large hematocele. In a study by Redmond et al. involving 37 patients, 23 (64%) had large hematocele, and all were successfully treated conservatively, with only 4 out of 37 (11%) experiencing some degree of testicular atrophy [1].

Conversely, numerous studies advocate for early surgical intervention, as prompt exploration can lead to a shorter recovery period and reduced disability. This approach may also facilitate a quicker return to normal activities for patients [2]. On the other hand, conservative treatment, which often involves a high rate of delayed exploration (up to 40%), can lead to orchiectomy (up to 15%) and infections [3].

We present two clinical cases of blunt scrotal trauma with significant hematocele. Both cases involved intact tunica and were initially managed conservatively. Eventually, one case transitioned to open surgery. Our goal is to provide guidance for clinical practice and address the ongoing debate in the literature regarding the management of severe hematocele with intact tunica.

## Cases

See the attached table.

## Discussion

Despite the low occurrence of scrotal injuries, significant comorbidities can arise, especially because the scrotal skin is loose and there is reactive edema due to inflammation. Furthermore, the scrotum provides a potential space without a tamponade effect, allowing blood to accumulate. The testicles are highly sensitive to pain and require an extended recovery period, ranging from weeks to months.

Scrotal injuries are more prevalent in young males due to their involvement in contact sports and occasional violence. Both of our patients were young men, aligning with the patient profile in other published studies [4]. Scrotal Doppler Ultrasonography (US) is recommended as the initial evaluation method for testicular trauma. In our cases, US revealed intact tunica with large hematocele.

There is consensus in the literature that mild testicular injuries with an intact tunica albuginea should be managed conservatively, that includes bed rest, testicular elevation, and analgesia. Similarly, there is agreement on the approach to testicular trauma involving a ruptured tunica, which

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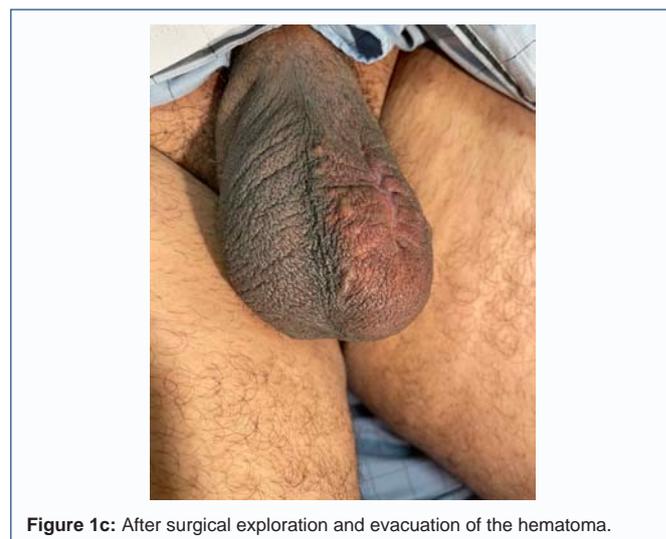
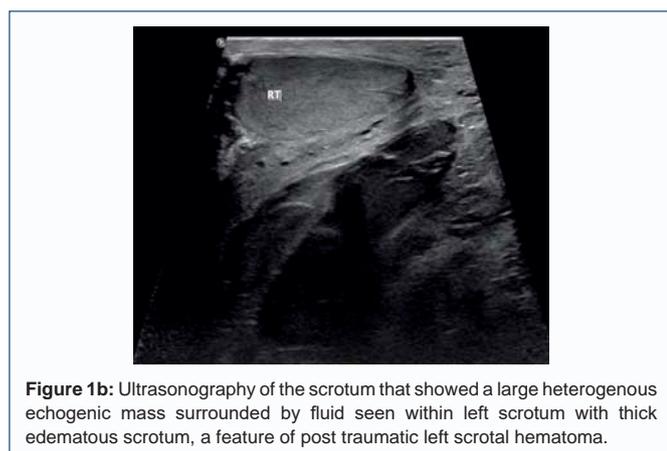
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Cases	Age	Cause of trauma	Scrotum physical exam	Ultrasonography	Initial plan of management	The end results
# 1 Figure: 1 a, b, c	30	Sports / football	Swollen scrotum The scrotal skin showed mild edema, and a patch of ecchymotic area on the left side crossed the midline	A huge heterogenous mass 10cm in diameter in the left testicle, considering patient's history, scrotal hematoma is suggested	Conservative	Went to a private hospital and had surgical evacuation after a week in view of consistent pain, disability, absence from work
# 2 Figure: 2	19	Sports / football	Significant edema to the scrotal wall and big area of ecchymosis on the left side crossed to the right side Severe tenderness	A large heterogenous echogenic mass surrounded by fluid seen within left scrotum with thick edematous scrotum, a feature of post traumatic left scrotal hematoma	Conservative	Complete resolution Patient reported, Significant disability: 3wks Absence from work: 6wks



necessitates surgical intervention and boasts a salvage rate exceeding 90% if addressed within 72 hours [5, 6]. For testicular traumas with ruptured tunica, the current European Association of Urology guidelines recommend surgical exploration [3]. Additionally, many case reports suggest early intervention, which is associated with a very high salvage rate exceeding 90% [6].

On the other hand, the treatment of cases involving large hematoceles with an intact tunica remains controversial. Proponents of conservative management cite reports of spontaneous recovery when the tunica is intact [2]. In our series, the two cases had intact tunicae, and we initially opted for conservative treatment.

In the first case of our series, although conservative management was initially successful, the patient sought surgical intervention at a private hospital after two weeks. He reported significant comorbidities, including difficulties maintaining family commitments and a prolonged absence from a private job that did not accommodate sick leave.

These findings are consistent with Kitrey et al., who recommend

that patients with large hematoceles benefit from early surgical evacuation, even in cases of non-ruptured testis. High rates of delayed exploration (up to 40%) and orchietomy (up to 15%) have been associated with complications such as infection, pain, atrophy, pressure necrosis, and prolonged hospital stays in conservatively managed cases of large hematoceles [3]. Therefore, early surgical exploration significantly reduces convalescence time and disability, potentially enabling patients to return to activity more quickly [2].

Scrotal exploration is a brief surgical procedure that allows easy access to the testicles, with minimal comorbidities, few postoperative

complications, and a relatively short recovery period compared to abdominal surgeries or other organ explorations.

In our second case, the patient requested conservative management because he had no social ties and held a government job. It is noted that he reported a prolonged period of disability.

In cases of blunt scrotal trauma with large hematocele with an intact tunica, the decision should be mutually agreed upon by the patient and the medical team, choosing either conservative or surgical management. Physicians should present information about the potential benefits and risks of each treatment plan, rather than recommending only conservative management.

## Conclusion

In testicular injuries with large hematoceles and intact tunica, both conservative and surgical management can lead to testicular recovery. Patients should be informed of the advantages and disadvantages of both treatment options. Surgical management offers the benefit of faster recovery, while conservative management may be suitable for those who can anticipate and endure a prolonged recovery period.

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