

CASE REPORT

Obstructive azoospermia caused by epididymis injury with testicle rupture on the other side

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Abstract

Background: Epididymal injuries without ipsilateral injuries of the testicles are rare. We report a case of a solitary right epididymal injury complicated by left testicular rupture.

Case Presentation: A 21-year-old man experienced scrotal trauma caused by a motorcycle accident. Bilateral swelling and tenderness of the scrotum were observed. Ultrasonography and computed tomography revealed a ruptured left testicle; therefore, surgery was performed. During surgery, the left testicle was excised because it was completely ruptured, and the right testicle and epididymis were evaluated to identify the cause of swelling of the right scrotum. The right testis was not injured; however, the right epididymis was lacerated. Subsequently, the lacerated right epididymis was repaired using sutures. A semen analysis performed at 1, 4, and 7 months after surgery revealed the absence of sperm in the semen.

Conclusion: Epididymal injuries should be considered as differential diagnoses for scrotal trauma.

KEY WORDS

epididymis, injury, obstructive azoospermia, scrotum, trauma

INTRODUCTION

Scrotal trauma can cause testicular injuries that sometimes result in testicular rupture. However, epididymal injuries caused by scrotal trauma are rare, and most injuries of the epididymis are complicated by ipsilateral injuries of the testicles. Therefore, a solitary epididymal injury without a testicular injury is extremely rare.¹⁻³ We describe a case involving injury of the right epididymis without an ipsilateral injury of the testicles.

CASE PRESENTATION

A 21-year-old man was injured during a motorcycle accident and transported to our hospital. The patient was

conscious and his vital signs were stable; no abnormalities were observed. Bilateral swelling and tenderness of the scrotum were observed (Figure 1). Ultrasonography and contrast-enhanced computed tomography revealed a rupture of the left testicle. Ultrasonography showed that the right testis was normal; however, a small hematoma surrounding the right testis was observed. The right epididymis was not evaluated. Surgery was performed on the same day. Because the left testicle was completely ruptured, it was excised (Figure 2A). During surgery, the right testicle and epididymis were also evaluated to identify the cause of swelling of the right scrotum and the hematoma surrounding the right testis. The right testis was not injured; however, the right epididymis was lacerated. The body of the epididymis had more than half of the parenchyma lacerated (Figures 2B and 3A). Therefore, the body

Takayuki Ueda and Masato Yanagi contributed equally to this work.

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FIGURE 1 Appearance of the damaged scrotum.

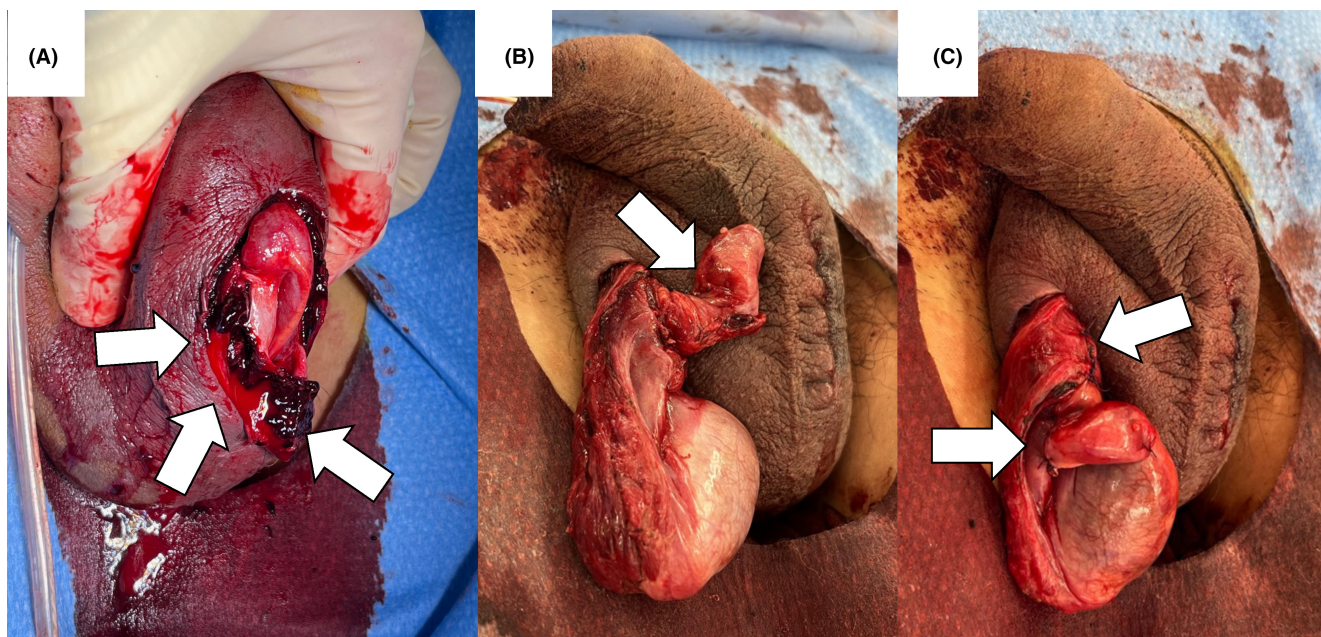


FIGURE 2 Intraoperative findings. (A) The white arrows indicate the crushed left testis. (B) The white arrow indicates part of the lacerated right epididymis. (C) The white arrows indicate the right epididymis repaired by sutures.

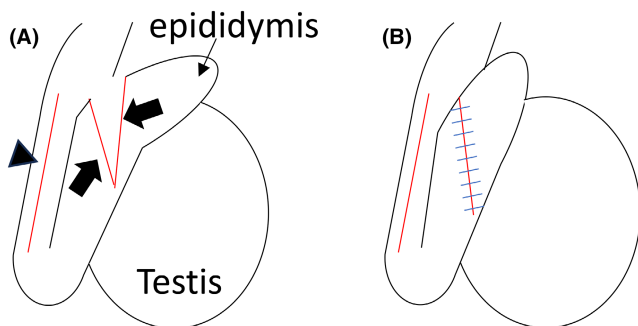


FIGURE 3 Scheme of the injured epididymis. (A) The black arrowhead shows a superficial laceration. Black arrows show deep lacerations of the body of the epididymis. The body of the epididymis had more than half of the parenchyma lacerated. (B) The body of the epididymis lacerated was repaired by suture.

of the epididymis was repaired using sutures (Figures 2C and 3B). A semen analysis was performed 1, 4, and 7 months after surgery; however, sperm was not observed.

DISCUSSION

A solitary epididymal injury without testicular rupture, as in the present case, is rare. To our knowledge, only three cases involving a solitary epididymal injury have been surgically confirmed.¹⁻³ The background and outcomes of those three patients and the present patient are presented in Table 1. Epididymal injuries have various causes, and only 25% of cases are correctly diagnosed using the initial imaging examination results. Ultrasonography does not have high sensitivity or specificity for epididymal injuries.⁴ In the absence

TABLE 1 Characteristics of previous epididymal injury cases and the present case.

Author	Year	Age (years)	Cause	The initial diagnosis	Treatment for the epididymal injury	Other treatments	Outcome
Zivković and Janjić ¹	1980	13	Violence	Epididymal injury	Removal of the hematoma on the day of the initial diagnosis	None	Uneventful
Davies and Cass ²	1988	8	Fall	Testicular injury	Repaired 1 day after the initial diagnosis	None	Uneventful
Kwong et al. ³	2004	15	Fall	Scrotal hematoma	Removal 10 days after the initial diagnosis	None	Uneventful
Present case	2023	20	Motorcycle accident	Scrotal hematoma	Repaired on the day of the initial diagnosis	Remove of the contralateral testis	Obstructive azoospermia

of an obvious testicular injury, ipsilateral epididymal injuries might be overlooked. In the present case, we diagnosed the right epididymal injury by performing exploratory surgery to evaluate the cause of swelling of the right scrotum. Although the diagnosis of scrotal trauma caused by high-energy injuries is focused on testicular injuries, it is necessary to confirm epididymal injuries.

This is the first report of an epididymal injury resulting in obstructive azoospermia. The results of the present case indicated that epididymal injuries can cause obstructive azoospermia on the injured side. Therefore, a postoperative semen analysis should be performed for patients with epididymal injuries, especially those who desire to have children. The early diagnosis of obstructive azoospermia caused by an epididymal injury, as in the present case, can aid in the creation of a life plan that includes testicular sperm extraction.

CONCLUSION

Epididymal injuries should be considered as differential diagnoses of scrotal trauma.

ACKNOWLEDGMENTS

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable. No new data were generated.

ETHICS STATEMENT

Approval of the research protocol: Not applicable.

Informed consent: Written informed consent was obtained from the patient for the publication of this case report and the accompanying images.

Registry and the registration no. of the study/trial: Not applicable.

Animal studies: Not applicable.

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