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Delayed Penile Hematoma Four Weeks Post-Circumcision in an 8-Year-Old Boy: A Rare Complication

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Abstract

Delayed penile hematoma after circumcision is exceedingly rare, particularly weeks after surgery and without significant trauma; we report such a case in an 8-year-old boy. He developed acute penile swelling and severe pain four weeks after an uncomplicated circumcision, following minor groin contact while swimming. Examination revealed a large dorsal penile hematoma with normal coagulation studies. Surgical evacuation exposed reopening of the circumcision line with active bleeding, and hemostasis was achieved. Recovery was uneventful. Most penile hematomas occur within 48 hours postoperatively and are trauma related; late presentations are scarcely documented. This case suggests that recently healed penile tissue may remain vulnerable to bleeding with minimal stress, underscoring the need for extended postoperative vigilance.

Keywords

Penile Hematoma, Circumcision Complications, Pediatric Urology, Delayed Presentation, Post-Operative Complications

1. Introduction

Circumcision is among the most common pediatric surgical procedures worldwide, generally associated with low complication rates [1]-[3]. Penile hematoma following circumcision occurs in approximately 0.1% - 0.5% of cases, with the vast majority (>95%) presenting within the first 24 - 48 hours postoperatively. Cases presenting beyond one week are extremely rare, and those occurring without significant trauma are virtually unreported in the pediatric literature [1]-[3]. Most

adverse events are minor, including pain, edema, or minor bleeding [4] [5]. However, major complications such as hematomas, though rare, can arise postoperatively, especially in the setting of trauma, clotting abnormalities, or surgical technique [4]-[6]. Extended reviews have documented that surgical technique may significantly influence outcomes, with variation between conventional dissection and device-assisted methods [7] [8]. The management approach depends on the size of the hematoma, degree of tension, and risk of tissue compromise [5] [9]. We report a case of delayed penile hematoma following minimal trauma after an otherwise uncomplicated circumcision in a pediatric patient.

2. Case Presentation

Written informed consent was obtained from the patient's parents for publication of this case report and accompanying images. This case report was conducted in accordance with the Declaration of Helsinki.

An 8-year-old male with no known medical comorbidities presented with acute penile swelling and severe pain (7/10) after jumping into a swimming pool and possibly being kicked in the groin by his brother. The incident occurred during a family gathering, one month after an uneventful circumcision performed using the sleeve resection technique under general anesthesia. The procedure and early recovery were unremarkable, with normal healing observed at 1-week follow-up. Laboratory results were as follows: hemoglobin 12.1 g/dL, hematocrit 36.2%, platelet count 285,000/μL, PT 11.2 seconds, and aPTT 28 seconds, all within normal ranges.

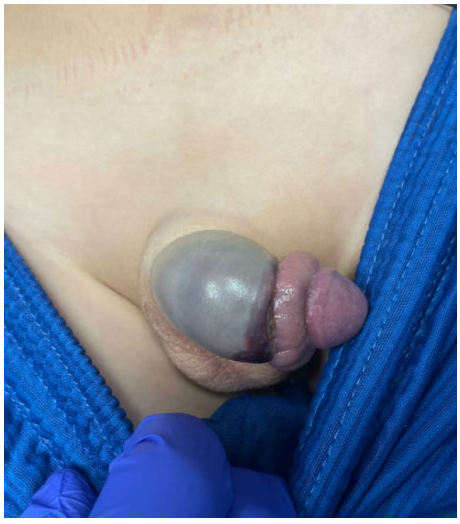

Figure 1. Large circumferential penile hematoma with predominantly dorsal involvement.

On physical examination, the patient was afebrile, hemodynamically stable, and comfortable. The penis was circumcised with a large dorsal > ventral circumferential hematoma. No urethral injury or testicular abnormalities were noted (**Figure 1**). Because of the rapidly expanding hematoma, surgical evacuation was per-

formed. Intraoperatively, a dorsal hematoma was drained; hemostasis was achieved using electrocautery and absorbable sutures. A dorsal penile nerve block was administered, and the wound was appropriately dressed. The patient had adequate postoperative pain control, resumed normal voiding, and was discharged the following day. Follow-up confirmed complete resolution of swelling without recurrence.

3. Discussion

Penile hematomas following circumcision typically manifest in the early postoperative period and are often related to surgical techniques, coagulation disorders, or trauma [4] [6] [10]. The present case is remarkable for several unique features: (1) delayed onset at four weeks postoperatively, (2) absence of significant traumatic antecedent, and (3) normal coagulation studies, making this an exceptionally rare presentation [4] [6] [10]. The delayed presentation may be attributed to progressive weakening of recently healed penile tissue under minimal stress [11] [12], incomplete vascular healing at dorsal penile vessels, or subclinical factors not detected by standard coagulation screening. This phenomenon may reflect the biological fragility of neovascularized tissue during the remodeling phase, when immature capillaries are particularly susceptible to rupture under mechanical stress. Importantly, intraoperative identification of a reopened circumcision line with active bleeding supports the hypothesis that incomplete tissue remodeling can predispose to delayed hemorrhage even with minimal provocation. While conservative management may be attempted in small, stable hematomas, indications for surgical evacuation include rapid expansion, suspicion of active bleeding, tissue compromise, or pain refractory to medical therapy [9] [13] [14]. Technical variations may influence outcomes, such as the use of Plastibell rings versus traditional dissection [7] [8] [15]. The sleeve resection technique, used in this case, involves circumferential excision and meticulous hemostasis. While generally safe, it may pose a slightly higher risk of late bleeding compared with device-based methods such as Plastibell, where tissue separation occurs by necrosis rather than incision. A systematic PubMed, Embase, and Google Scholar search using the terms “delayed”, “penile hematoma”, “circumcision”, and “pediatric” identified three cases of delayed presentation (>7 days) in the English literature [6] [11] [15], all occurring within 14 days and associated with clear traumatic events [16] [17]. No cases of hematoma presentation at 4 weeks with minimal trauma have been previously reported, making this case unique in both timing and etiology [6] [10] [13]. Recent evidence also supports updated protocols regarding lubricant use to reduce meatal stenosis and improve healing [18]. We propose a management algorithm for delayed post-circumcision bleeding: (1) Immediate assessment for active bleeding and hemodynamic stability, (2) Coagulation studies if not recently performed, (3) Conservative management for small, stable hematomas<2 cm, and (4) Surgical exploration for large, expanding, or compromising hematomas. Moreover, new international recommendations stress improved parental counseling

and long-term vigilance post-circumcision, especially in younger patients [19].

This case highlights the importance of counseling parents about potential late complications beyond the traditional 1 - 2-week follow-up period. We recommend advising parents to seek immediate medical attention for any penile swelling or bleeding occurring even weeks after circumcision.

Limitations of this report include its retrospective nature, single institution experience, and the inability to definitively exclude minor unreported trauma. Long-term follow-up beyond six months would strengthen the conclusions.

4. Conclusion

Delayed penile hematoma without a clear traumatic cause is an exceptionally rare event following circumcision. This report emphasizes the importance of extended postoperative vigilance, technical awareness, and parental education beyond the immediate surgical period. Even minor or unnoticed incidents may trigger significant complications—clinicians should maintain a high index of suspicion when symptoms arise unexpectedly.

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Author Contributions

STG: Conceptualization, data collection, manuscript writing. PA: Clinical management, manuscript review and editing. Both authors approved the final version.

Conflicts of Interest

The authors declare no conflicts of interest.

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