

Right Ureteric Rupture During Spontaneous Vaginal Delivery: A Rare Case Report

Daniel Savio Magee

Urology Department of Royal Perth Hospital, Western Australia, Australia

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***Corresponding author:** Daniel Savio Magee, Urology Department of Royal Perth Hospital, Western Australia, Australia

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ABSTRACT

Background: Spontaneous ureteric rupture is an exceedingly rare complication, particularly in the context of an unremarkable obstetric history. We report a case of a nulliparous 19-year-old who sustained a spontaneous right proximal ureteric rupture intrapartum during a spontaneous vaginal delivery (SVD).

Case Presentation: The patient 60 hours postpartum developed persistent and worsening right iliac fossa pain. She had no prior history of genitourinary pathology. Initial clinical assessment prompted imaging, and a delayed-phase computed tomography intravenous pyelogram (CT IVP) revealed a proximal ureteric leak with the formation of a urinoma. The patient was hemodynamically stable and commenced on prophylactic antibiotics. She was subsequently transferred to a tertiary care centre for urological intervention.

Endoscopic intervention involved the insertion of a right sided JJ stent under radiological guidance. The patient recovered well post-procedure and was discharged in stable condition the same day. A repeat right-sided retrograde pyelogram under general anaesthesia at 6 weeks post stenting confirmed healing of the ureteric injury, with no evidence of ongoing urinary leakage.

Conclusion: This case highlights a rare but significant complication of SVD, emphasizing the importance of timely diagnosis and multidisciplinary management in achieving favourable outcomes. Despite its rarity, spontaneous ureteric rupture should be considered in postpartum patients presenting with persistent abdominal pain and potentially fever, particularly when imaging reveals evidence of free fluid within the abdomen.

Keywords: Spontaneous ureteric rupture; Vaginal delivery; Postpartum complication; Urinoma; Endoscopic intervention; JJ stent

INTRODUCTION

Spontaneous ureteric rupture is a rare complication and presentation for ongoing abdominal pain in the immediate post-partum period in an uncomplicated spontaneous vaginal delivery (SVD).^[1] There have only ever

been a handful of cases recorded in the last decade.^[1-5] Identification and surgical management is recommended to prevent the development of further complications from urinoma presence.

CASE

19-year-old nulliparous female admitted for induction of labour at 40 weeks plus 2 days for pregnancy induced hypertension. Antenatally she was Group B Streptococcus (GBS) positive. Underwent artificial rupture of membranes and spontaneous vaginal delivery (SVD) with a single live baby delivered. An epidural was inserted for pain control and an indwelling catheter as standard protocol. Benzylpenicillin was given during labour for GBS prophylaxis.

During 2nd stage of delivery a 2nd degree posterior vaginal wall tear was incurred and repaired. A post partum haemorrhage of 800ml was incurred with the patient receiving 1 unit of packed red blood cells due to a haemoglobin of 88 g/L and preserved renal function.

Approximately 1 hour post SVD the patient had a hypotensive episode which was managed with Intravenous fluid replacement with crystalloid and resolved. Following this at 6 hours post SVD the patient reported increased lower abdominal pain, this was monitored overnight, with the pain localising to right iliac fossa and right flank the next morning. An ultrasound pelvis was conducted with identified free fluid within the retroperitoneum, this was followed by a portal venous (Figure 1) and delayed phase computer tomography scan (CT IVP) (Figure 2). The CT IVP identified a urinoma with a right proximal ureteric leak. Prophylactic IV antibiotics were commenced and transfer to tertiary hospital with Urology capacity for planned endoscopic stenting. Right ureteric stenting occurred approximately 60 hours after SVD under radiological guidance. A repeat right-sided retrograde pyelogram and stent removal under general anaesthesia 6 weeks post stenting confirmed healing of the ureteric injury, with no evidence of ongoing urinary leakage.



Figure 1: Initial coronal computer tomography scan in the portal venous phase demonstrating fluid within the retroperitoneum, leading to the suspicion of urine leak.



Figure 2: Follow up coronal computer tomography scan in the intravenous pyelographic phase demonstrating contrast extravasation from the right proximal ureter.

DISCUSSION

Ureteric rupture is theorised to be caused by extreme increase in pressure within the ureter secondary to compression.^[2,3,5] In this case, during second stage labour the increased pressure applied by a gravida uterus seems to have resulted in a proximal ureteric injury. Urinary tract injuries at any point from the renal calyces to the bladder have also been documented during SVD, however ureteric injuries remain rare.

CONCLUSION

Spontaneous ureteric injury is an exceptionally rare complication of a standard vaginal delivery. This type of injury should be suspected when free fluid is identified on imaging such as ultrasound or CT. The optimal scan is a CT IVP as it able demonstrate extravasation of contrast from the ureter. Preventing additional complications such as abscess formation or sepsis from a persistent urinoma and promoting ureteric healing of the leak should be the upmost priority and goal of treatment, this was achieved by endoscopic stenting.

Conflict of Interest: The author declares that there is no conflict of interest regarding the publication of this case report.

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