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Acute Postpartum Retention: A Rare Complication (Case Report)

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Abstract **Case Report**

Postpartum Bladder Retention (PPV) is an uncommon condition defined by the absence of voiding 6 hours after delivery with a bladder content greater than 400 milliliters (ml) of urine. Its lack of knowledge can lead to diagnostic delays that worsen the prognosis, as well as to inappropriate treatments. In the case of neglected retention, the bladder becomes distended and the term "slammed bladder" characterizes this overly dilated bladder that can no longer contract. By way of illustration, this article describes the observation of a young parturient admitted to our training center for significant abdominal distension and anuria, with severe renal insufficiency complicated by threatening hyperkalemia requiring the use of hemodialysis.

Keywords: Anuria, bladder retention, postpartum, distension.

INTRODUCTION

Postpartum acuts urine retention (AUR) is most often defined as the absence of spontaneous micturition within six hours of vaginal delivery, or within six hours of removal of the urinary catheter in the case of caesarean delivery [1, 2]. This is an infrequent and poorly understood complication of vaginal delivery. The main risk factors are age [3], urological history [3], obesity, ethnicity, primiparity, prolonged labor, instrumental extraction, locoregional analgesia and episiotomy [4].

The diagnosis is based on careful questioning and clinical examination. Treatment is based on intermittent evacuatory catheterization, and recovery usually occurs within 72 hours [2]. We report the case of a parturient admitted with abdominal distension and anuria four days after vaginal delivery.

CASE REPORT

A 33-year-old parturient, G2P2 (two vaginal deliveries to term), with no other particular history, was admitted to the emergency department four days after a normal vaginal delivery with episiotomy, giving birth to a live baby girl, with distension (Figure 1), diffuse abdominal tenderness and anuria since delivery.

Figure 1: Significant abdominal distension on postpartum day 5

The Clinical examination on admission revealed a conscious patient, hypertensive to 150/90 mmHg, polypneic to 26 cycles/minute with active urine sediment on dipstick. Abdominal palpation revealed diffuse abdominal tenderness with sloping dullness.

Biological workup revealed AKIN 3 severe acute renal failure at 130 mg/l creatinine, uremic syndrome at 2.8 g/l, threatening hyperkalemia at 7.9 mEq/l, severe metabolic acidosis at 8 mmol/l and true asymptomatic wasting hyponatremia at 127 mmol/l. The

rest of the laboratory work-up revealed an infectious syndrome, with CRP elevated to 135 g/l and hyperleukocytosis to 26,000 GB/mm3, with haematuria and aseptic leukocyturia on urinary cytobacteriological examination.

At the end of the emergency paraclinical work-up, the patient underwent abdominal ultrasound showing a large peritoneal effusion with normal-sized, well-differentiated kidneys without pyelocalic dilatation (Figure 2), a semi-full bladder and a post-gravid uterus (Figure 3). Ascites evacuation showed transudative fluid with sterile culture.

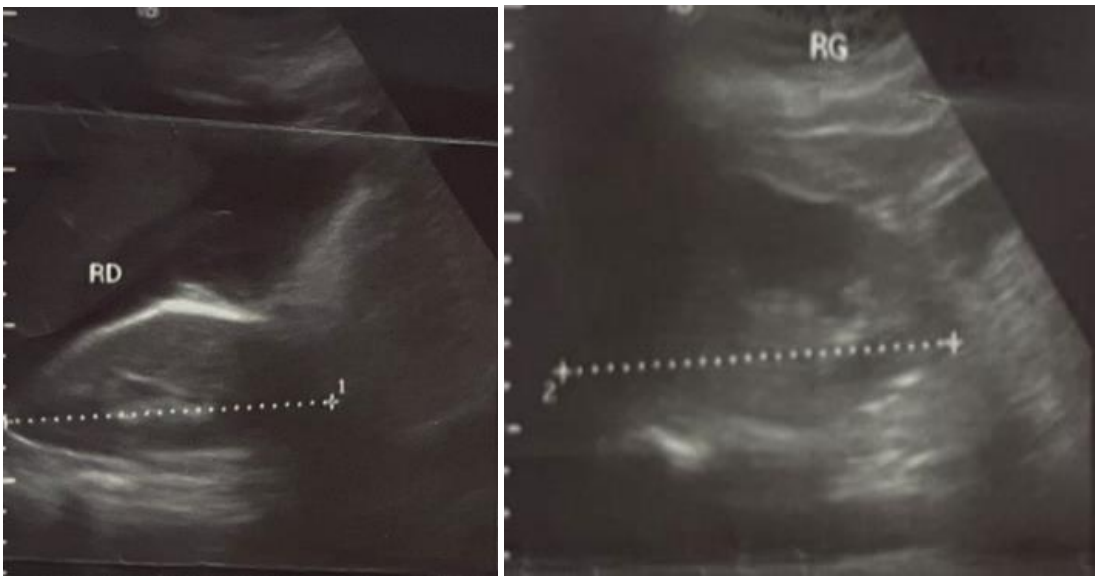

Figure 2: Renal ultrasound showing normal-sized kidneys without pyelocalic dilatation

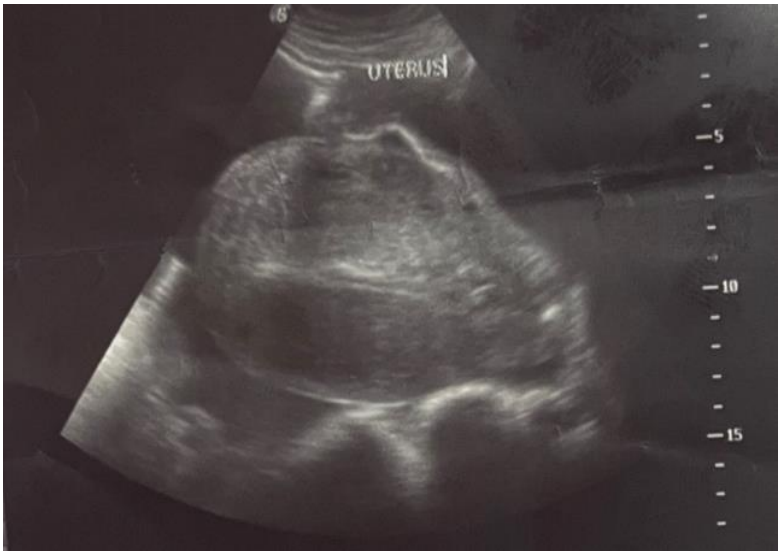

Figure 3: Pelvic ultrasound showing a post-gravid uterus with a 15 cm long axis

The initial course of action was to hospitalize the patient and perform a bladder catheterization, while avoiding the obstruction lifting syndrome, with dialysis in the face of threatening hyperkalemia and severe acidosis. The patient was put on probabilistic antibiotic therapy with a third-generation cephalosporin adapted to renal function.

The immediate clinical and biological outcome was favorable, with normalization of renal function 3 days after cessation of dialysis and a fall in protein-C-reactive.

Five days later, following accidental removal of the bladder catheter, the patient again developed a second retention requiring evacuatory catheterization. The decision of the staff, in consultation with the urology team, was to educate the patient in self-catheterization, with close follow-up in consultation.

DISCUSSION

Postpartum bladder retention (PVR) is a rare complication. It occurs in less than 1% of vaginal deliveries (0.7 to 0.9%) [3], and 75% of patients recover their bladder function within 72 hours [2]. Its definition varies from one author to another, ranging from the absence of micturition at 12 hours after delivery to the systematic detection of a post-micturition residue greater than 150mL [5].

In current obstetrical practice, the most appropriate definition seems to be that of Glavind and Bjork, based on "the absence of spontaneous micturition six hours after delivery associated with a bladder globe greater than 400mL". Our patient presented with anuria six hours after delivery, with recovery of renal function 72 hours after appropriate management.

Its etiology is multifactorial. Bladder physiology is altered during pregnancy, with hypotonia of the urinary tract due to the rise in blood progesterone levels from the third month onwards, resulting in a higher-than-normal post-micturition residual [5]. Perineal neuropathy caused by stretching of the pudendal nerve during parturition can lead to urinary retention. Psychogenic causes, usually due to discomfort (micturition on a flat pelvis, lack of intimacy), can be at the origin of post-partum urinary retention. In our case, bladder retention is probably due to hypotonia of the urinary tract.

Numerous risk factors have been identified in the literature. They depend on the definition of post-partum bladder retention, which varies from author to author. These risks may be general, related to analgesia or vascular filling, or specific to the delivery. In our case, age, ethnicity, episiotomy and obesity are risk factors for the occurrence of urinary retention.

The diagnosis of post-partum bladder retention is clinical and should not be overlooked. Ultrasound can be used to diagnose the condition by measuring the post-void residual and is an essential step in the management of the condition. In our patient, the bladder globe was difficult to assess, given the extent of the ascites.

Delayed diagnosis or management can lead to complications such as persistent retention, urinary tract infections and complications related to bladder catheterization. However, there are no studies with sufficient hindsight to assess long-term effects. In 2002, Yip *et al*., published the results of a four-year follow-up of a cohort of 691 women, 101 of whom had a post-micturition residue >150mL on postpartum day 1. Fifty-seven percent were recalled at 4 years, and no higher prevalence of stress urinary incontinence was found on questioning [5].

The occurrence of post-partum bladder retention has a significant psychological impact. Indeed, it implies greater medicalization of the post-partum period. However, no quality-of-life study has been carried out on this subject, and its implication in increasing the risk of immediate post-partum depression has not been demonstrated.

The management of post-partum bladder retention is symptomatic and etiological. In the literature, there is no consensus on a specific treatment for post-partum urinary retention.

Symptomatic measures are based on evacuation catheterization, indwelling catheterization and self-catheterization, which will allow the bladder to empty, relieve the patient and, above all, prevent complications.

Postpartum bladder retention needs to be diagnosed in order to implement effective treatment. Pain management, treatment of oedema or haematoma with non-steroidal anti-inflammatory drugs, and medical support with alpha-blockers are the main etiological treatments for post-partum bladder retention.

Given the importance of this pathology, it is essential to prevent its onset on the one hand, and its complications on the other. Prevention can be divided into two categories: direct prevention by reducing incidence through action on etiological factors, and secondary prevention of complications through early diagnosis and prompt treatment.

CONCLUSION

Post-partum bladder retention is a rare entity with a multifactorial etiology. It may result from a subvesical obstruction (most commonly), altered neurological control or, more rarely, a bladder contraction defect. Early diagnosis and management can prevent short- and long-term complications.

There is no consensus on its treatment, and no recommendations have been published by the learned societies of urology or obstetrics and gynecology. However, self-catheterization seems to be the most appropriate approach. In the event of persistent PVR, an etiological assessment should be carried out, including urodynamics, a voiding schedule and a gynecological table examination.

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