

# Spontaneous Rupture of Bladder in Puerperium without Uterine Rupture

Subrat Panda; M.D., Vandana Jha; M.D.

Department of Obstetrics and Gynecology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Sgillong, Meghalaya, India

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## Abstract

**Objective:** we report a case of intraperitoneal urinary bladder rupture 1 week following normal delivery in a primigravida, who presented with huge urinary ascites, anuria and renal failure. Abdominal paracentesis and exploratory laparotomy was done and a diagnosis of intraperitoneal bladder rupture was made. The rent was repaired in layers. This may be preventable if adequate precaution in the form of evacuating the bladder before the patient goes into second stage of labor is undertaken.

**Keywords:** Bladder Rupture, Puerperium, Urinary Ascites

## Introduction

Spontaneous rupture of bladder in the puerperium is extremely rare and only a few cases are reported in literature. This may be preventable if precaution in the form of bladder evacuation before the patient goes into second stage of labor is undertaken. Awareness on the part of the treating surgeon that bladder rupture is a possibility will lead to an early diagnosis. Immediate exploration, removing urine from the peritoneal cavity or retropubic space, closing the rupture and securing good vesical drainage, results in resumption of vesical function, and thereby decreases the mortality and morbidity.

## Case Report

A 22 years, Para 1, presented with distended abdomen, acute retention of urine and vague

abdominal pain since last 6 days. She gave history of forceps assisted vaginal delivery 10 days back. She initially went to another hospital where catheterization was attempted with no urine coming out & was then referred to our institute. At the time of presentation to our hospital, she had altered sensorium, temperature 99 degree, pulse 104/minute, BP-130/100 mmHg and was pale. Per abdominal ascites revealed gross ascites. Per vaginal examination showed a closed os with non offensive lochia. Urinary catheter was put. Paracentesis was done and 1.5 L of purulent fluid with urinary odor was tapped. Bilateral intraperitoneal drains were put after surgery consultation and > 4 L of fluid was drained. Her investigations were as below: Hb-9gm %, WBC- 19500/cc ( $N_{84}L_{12}E_4$ ), ESR- 140/min, blood urea- 174mg/dl, serum creatinine- 3.3 mg/dl, serum potassium- 5.7mmol/L, serum sodium - 126 mmol/L. Arterial blood gas showed a  $P^H$  of 7.425,  $P^{CO_2}$  - 21.9 mm Hg,  $HCO_3$  14 mmol/L and a base excess of 9 mmol/l. Ascitic fluid was sent to biochemistry and it was confirmed to be urine.

Her abdominal ultrasonography showed bilateral mild hydronephrosis with huge ascites. On suspicion

## Correspondence:

Dr. Subrat Panda, Department of Obstetrics and Gynecology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Sgillong, Meghalaya, 793018, India  
Tel: +91 (919) 612161655, +91 3642538058  
Email: subrt\_panda@gmail.com

of bladder rupture, plan for exploratory laparotomy was made. A (4x2) cm perforation was noted on the dome of the bladder and the bladder wall was thinned out. There was no evidence of rupture of uterus as there was no rent in uterus. Peritoneal cavity was lavaged, areas of bladder necrosis excised & the defect was closed primarily in 2 layers. Bladder was drained through suprapubic and urethral catheter. Recovery was uneventful.

## Discussion

Isolated intraperitoneal bladder rupture following vaginal delivery is extremely rare. It is usually seen in association with uterine rupture. Only a few cases are recorded in literature. Kilbel et al reported the first case in 1995, in which the initial diagnosis was thought to be "sepsis secondary to uterine rupture with renal failure on the basis of sepsis and non steroidal anti inflammatory drug use" (1). Diagnosis was made through cystogram. Another case reported by Kekre et al was initially diagnosed as "peritonitis with septicaemia" (2). Diagnosis was confirmed on laparotomy. Png K S et al also reported 2 such cases (3).

The etiology of this condition is multifactorial. Sustained pressure of the fetal head against the bladder during forceful uterine contractions may lead to pressure necrosis of the bladder dome. This is more likely if the patient is not catheterized, resulting in a distended bladder during labour. Diagnosis depends

on retrograde cystoscopy, analysis of ascitic fluid for urea and creatinine and blood biochemistry suggestive of renal failure and exploratory laparotomy finding.

A high index of suspicion is required if a patient presents with acute renal failure and huge ascites following vaginal delivery. Decision for laparotomy, in the presence of signs of peritonitis should not be delayed. Laparotomy is required for peritoneal lavage; excision of devitalized tissue and primary repair of bladder perforation (4). Early diagnosis and prompt surgical treatment will decrease the morbidity and mortality associated with this condition.

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Conflict of interest: no.

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