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Maternity

Spontaneous rupture of bladder in labour

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Case Presentation

- 31 year old
- From Pakistan, UK resident > 5 years
- Para 2+0
  - SVD at 38/40 (2011)
  - EMCS at 40+5 for FTP at 7cm (2014)
- BMI 25.8
- Rh+ve
- No significant PMHx

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Antenatal Care

- VBAC pathway – midwifery led antenatal care
- Antenatal anaemia at 28/40 – Hb 89, treated with oral iron and Venofer
- Normal OGTT 28/40 – 4.7 / 7.2
- USS at 33+1 for static SFH – EFW 2.038kg (50th centile), normal liquor volume and Dopplers
- Booked for postdates IOL at 42/40

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Intrapartum Care

- Presented at 40+6 with painful tightenings and small PVB
- Admitted to antenatal ward overnight for observation, noted SROM 0300
- Transferred to Labour Ward in spontaneous labour
- VE 2220 – 4cm dilated, well applied, clear liquor, PP at -1

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Intrapartum Care

- IVABx for PROM
- Noted contracting 1:10, normal CTG
- Commenced Syntocinon at 2345h
- Epidural sited 0025h
- Catheterized 0115h – 100ml residual, clear urine
- 0140 – CTG pathological with repetitive decelerations >50% contractions

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Intrapartum Care

- Syntocinon stopped
- 0230 – CTG still pathological despite conservative measures
- VE: 8cm dilated, PP -1
- 4 x attempts at FBS but insufficient sample obtained
- Decision to transfer to theatre for Cat 2 EMCS

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Intrapartum Care

- 0250 – VE fully dilated, PP -1, no descent with pushing
- New onset haematuria noted in theatre
- Decision to proceed with CS
- Pfannestiel incision and entry into abdomen to peritoneum
- Bulb of catheter noted as extraperitoneal

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Intrapartum Care

- Peritoneal cavity entered
- Bladder intact on the anterior wall of the the uterus
- Extraperitoneal anterior bladder wall rupture identified
- High lower segment transverse uterine incision
- Uncomplicated delivery of female infant in good condition

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Intrapartum Care

- P&M delivered manually
- Uncomplicated closure of uterus in two layers
- No significant adhesions seen
- Operation taken over by resident Consultant
- Bladder rupture edges identified

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Intrapartum Care

- Trigone and ureteric orifices identified as away from rupture
- Uterus exteriorized and inspected – no uterine defect identified
- Case discussed with non-resident Consultant
- VE – no uterine defect identified

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Intrapartum Care

- IV gentamicin stat dose
- Bladder closed in 2 layers with Vicryl 3.0
- Methylene blue dye test – no leak
- Routine closure of abdomen
- Baby – 2.785kg
- Apgars 8/9/9
- Cord gases – both samples likely from same vessel, pH 7.06, BE -10.5

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Postnatal Care

- Observation Area post-op
- Patient debriefed extensively
- Catheter in situ 10 days
- U&Es – normal on Day 0 and 2
- IV coamoxiclav 24 hours then oral for 7 days
- CT Urogram on Day 1: No evidence of urological abnormality or ongoing leak

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Postnatal Care

- Case discussed with Urology and Microbiology
- Hx of exposure to TB but Quantiferon test negative
- Discharged home on Day 3 with catheter in situ
- Cystogram on Day 10 prior to TWOC: no bladder defect or leak

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Literature Review

- Spontaneous bladder rupture in pregnancy, labour and postpartum extremely rare
- Defined by no history of antecedent trauma nor underlying bladder pathology
- First reported by Kibel AS et al in 1995 and only five reported cases in literature
- Surgical postpartum emergency

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Literature Review

- Associations:-
  - Bladder disease
  - Trauma
  - Acute or chronic urinary distension
  - Malignant disease
  - Anatomical outflow obstructions,
  - Indwelling catheters
  - Instrumentation,
  - Neurogenic bladder,
  - Post radiotherapy
  - Chronic infective diseases
  - Necrotizing cystitis
  - Urinary TB

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Literature Review

- Characteristically presents with acute abdomen, suprapubic pain, anuria and hematuria
- Intraperitoneal bladder rupture may not cause abdominal pain and can pass urine without any symptoms so the diagnosis may be difficult

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Literature Review

- Most experience in non-pregnant population
- Often late diagnosis, even after CT A/P
- In non-pregnant population, mortality up to 50%
- Transient renal impairment may be evident with raised creatinine and urea

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Literature Review

- More common case reports of combined uterine and bladder rupture in labour after previous Caesarean
- Traumatic bladder rupture reported after instrumental delivery with bladder over-distension
- Laparoscopic repair has been reported following vaginal delivery

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Learnings and Reflections

- Rare case of spontaneous bladder rupture
- Non-iatrogenic, not associated with uterine rupture and no obvious cause found
- Possible aetiology - scarring of bladder from prev CS or diathermy causing weak point
- Exclude associated pathology
- Difficulty in diagnosing if SVD
- Who should repair if no onsite urology?

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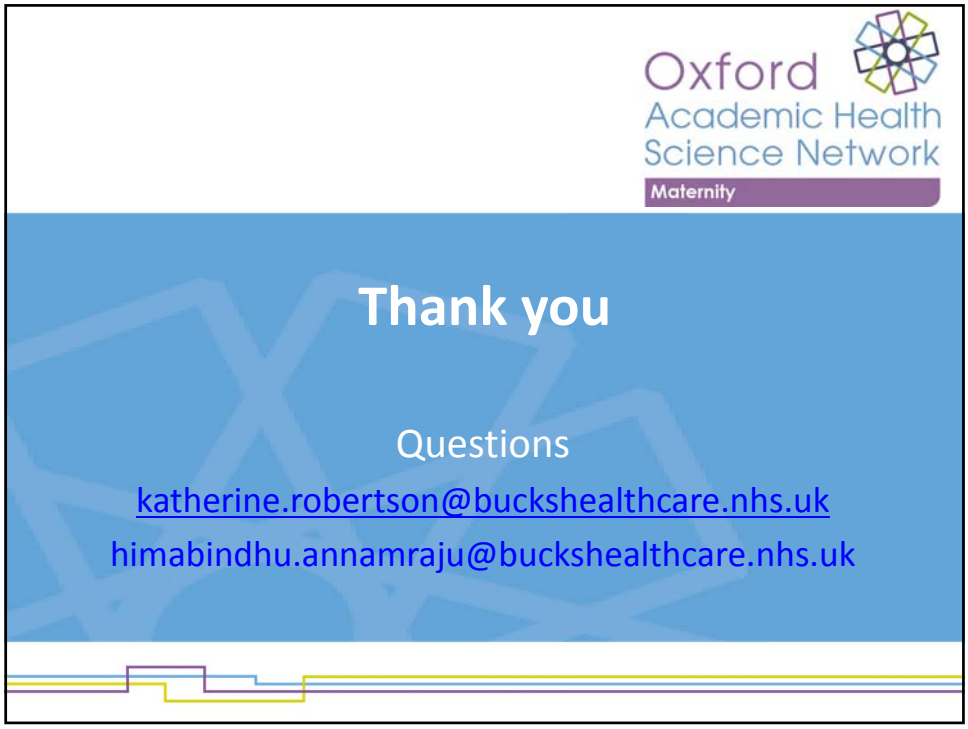
References

- A Late Presentation of Spontaneous Bladder Rupture During Labor – Farahzadi et al - *Urology Case Reports 8 (2016) 24-25*
- Missed Bladder Rupture Following Normal Vaginal Delivery – Baheti et al - *Journal of Clinical and Diagnostic Research. 2015 Oct, 9(10): PD01-PD02*
- Spontaneous puerperal extraperitoneal bladder wall rupture in young woman with diagnostic dilemma - Sabat et al - *J Family Med Prim Care 2015;4:601-3*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Thank you
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