

Cervical buttonhole tears: a rare intrapartum complication

Authors: Newnham-Hill A, Odendaal J, Hillman C
Worcestershire Acute Hospitals NHS Trust.

Introduction

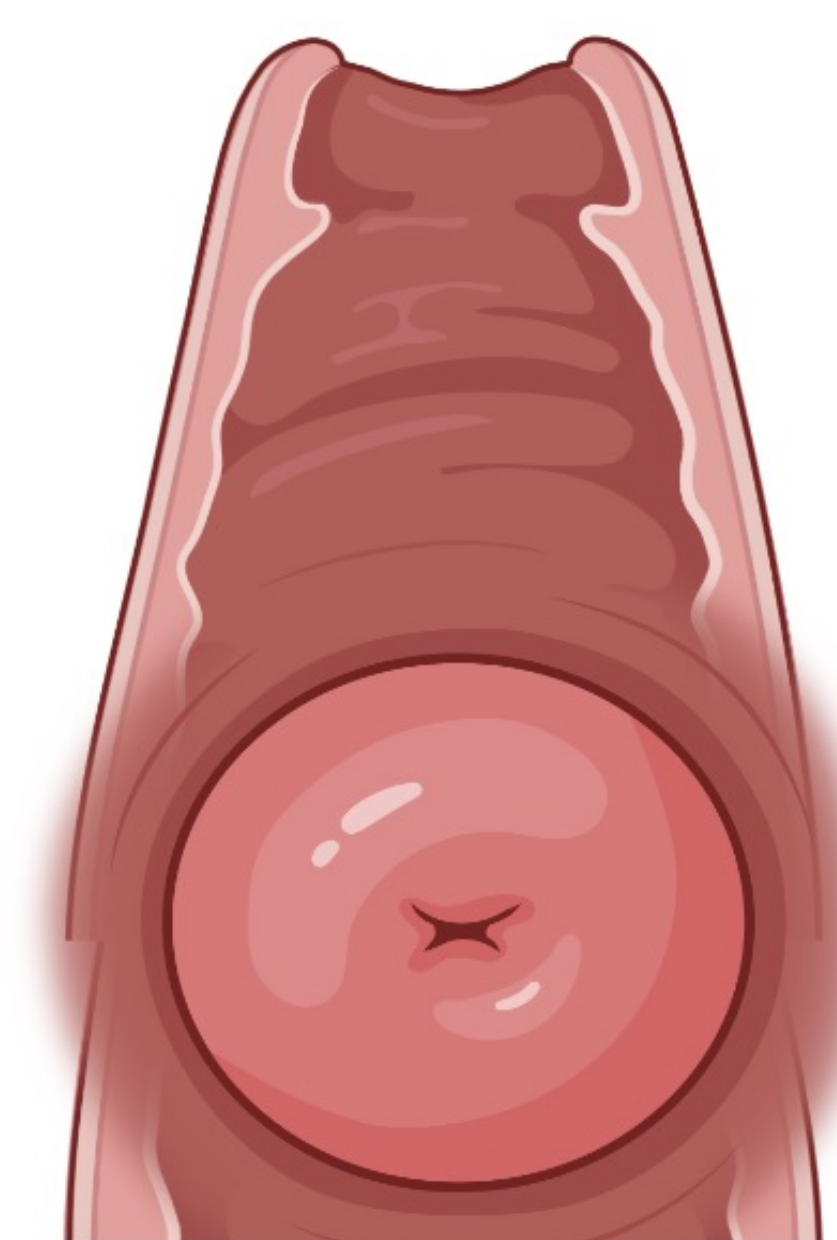
Cervical tears are a rare intrapartum complication with an incidence of **0.2%**. These are associated with postpartum haemorrhage.

Reported intrapartum cervical injuries include annular tears, bucket handle tears, and avulsion or complete cervical detachment. Here we report a previously un-described buttonhole tear of the cervix.

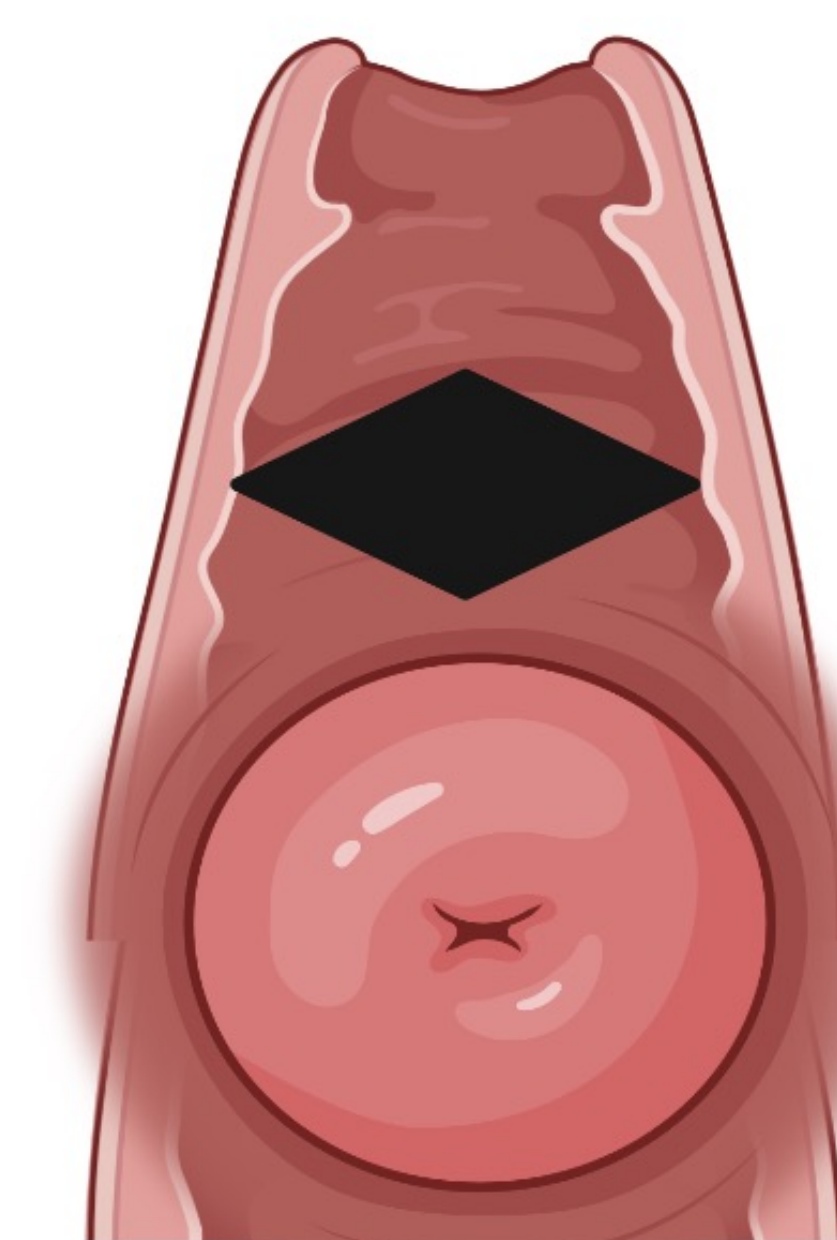
Case

- 36 year old IVF pregnancy, routine postdate inductions at 41+6/40
- Uncomplicated induction and first stage, required a lift out Neville-Barnes Forceps Delivery due to delay in second stage.
- During episiotomy suturing she had a **major postpartum haemorrhage** initially thought to be due to uterine atony, failure of uterotonics led to identification of a cervical buttonhole tear
- Examination findings: patulous cervix with a **4cm longitudinal buttonhole tear of the anterior cervix** at 12 o'clock position with an **intact external cervical os**.
- Tear repaired with vicryl 2-0 using 4 interrupted sutures spaced 1cm apart
- Canal patency was ensured by inserting a sigmoidoscope
- Counselling on implication for future pregnancies with recommendation for referral to **pre-term birth prevention clinic**

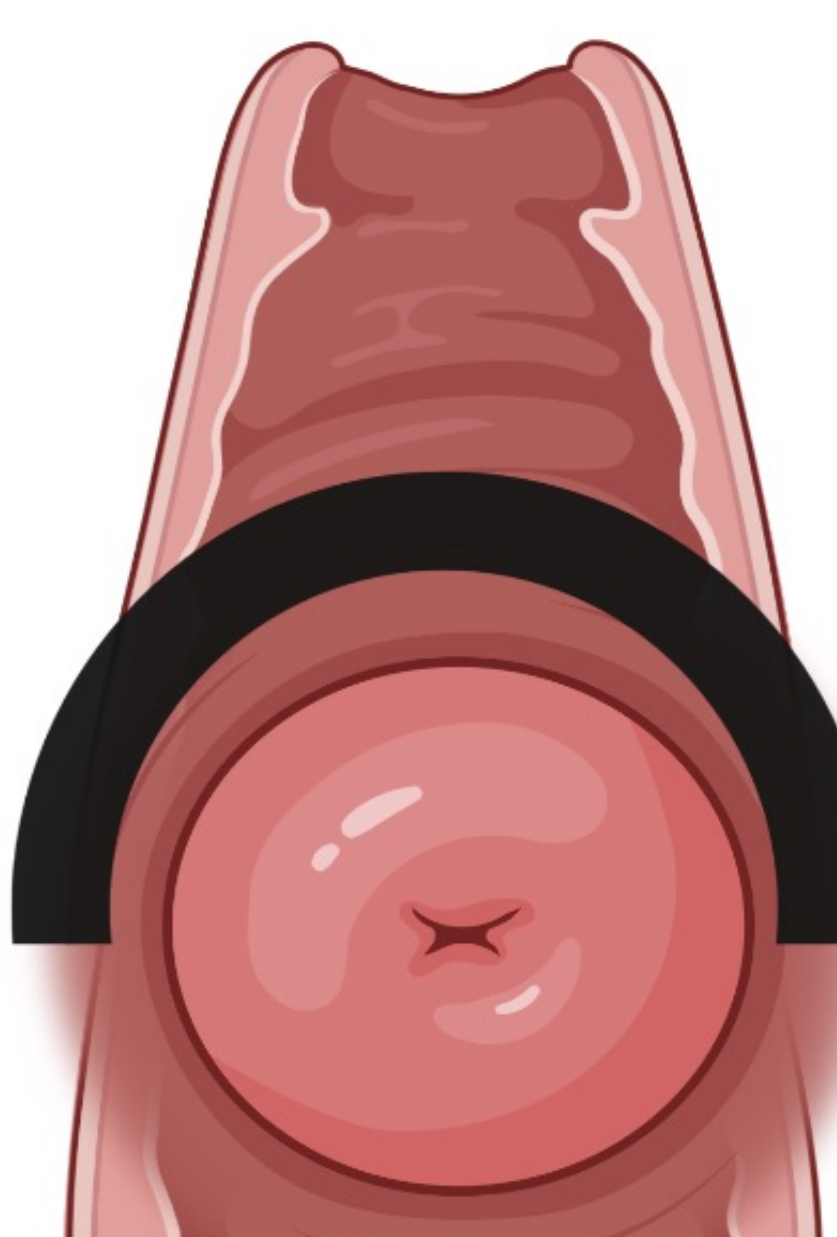
A



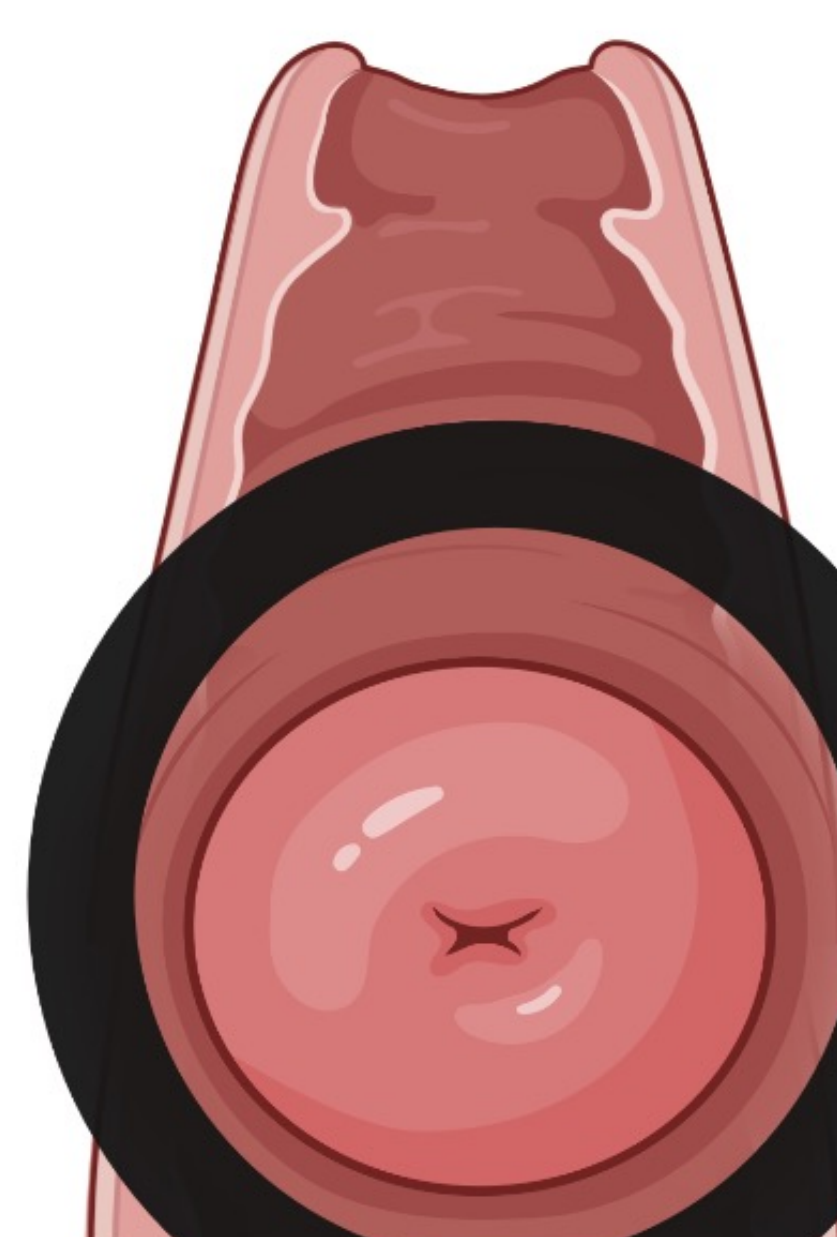
B



C



D



Normal Cervix (A)

Buttonhole (B)

Bucket handle (C)

Annular (D)

Discussion

MECHANISM

The mechanism behind intrapartum cervical tears remains to be elucidated with several postulations with a lack of evidence. Some of these include:

- Bearing down on a partially dilated cervix
- Iatrogenic response to multiple examinations
- Oedema and necrosis to cervix as it is compressed between vertex and pubic symphysis however this doesn't explain posterior lip tears.
- Underlying fibrotic changes to cervix

A continuum of mechanical shear forces has been proposed as demonstrated (left) however there are no reported cases of buttonhole tears. We demonstrate the plausibility of this continuum hypothesis by shedding light on the existence of cervical buttonhole tears.

REPAIR

No standardised repair technique. Factors to consider:

- Altering suture tension with postnatal uterine involution → suture choice
- Friable and oedematous tissue
- Risk of iatrogenic loss of canal patency during repair → no routine equipment to prevent consider novel use

Clinical implication

- Careful assessment of the cervix is required in the presence of unexplained postpartum haemorrhage
 - A mechanistic continuum in the evolution of cervical tears is demonstrated
- Novel instruments may be used to surgical correction of difficult tears