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Case Report

Acquired Vaginal Stenosis - A Case Report

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Abstract

Vaginal stenosis is commonly recognised as being congenital. Acquired vaginal stenosis is rare, particularly in relation to trauma such as tears following vaginal childbirth.

A young female presented to Accident and Emergency (A&E) fifteen months following spontaneous vaginal delivery. Her delivery had been complicated with major postpartum haemorrhage derived from vaginal and perineal tears. She underwent examination under anaesthesia (EUA) and suturing of the lacerations, recovery was uneventful and she was discharged.

She presented in urinary retention and was catheterised. The catheter did not drain the bladder completely and a pelvic ultrasound identified hematocolpos.

Vaginal examination revealed complete obliteration of the vagina related to extensive adhesions.

The patient subsequently underwent two operations to divide the scarred vaginal tissue followed by long term use of vaginal dilators. At follow up she reported being able to have sexual intercourse without dyspareunia. Ten months later she had a further successful spontaneous conception.

Keywords: *Vaginal Stenosis; Being Congenital; Vaginal Childbirth*

Introduction

Vaginal stenosis is commonly recognised as being congenital. Acquired vaginal stenosis is rare, particularly in relation to trauma such as tears following vaginal childbirth.

Case Presentation

- Patient: Young female, parity of 1.
- Surgical history: Multiple orthopaedic operations without post-operative complications.
- No family history, no drug allergies, good social support.

This patient presented to the A&E in urinary retention a week after a total hip replacement. She was catheterised and subsequent trials without catheter were failed due to her residual volume of urine remaining above 50%. Clinical examination revealed a firm central pelvic mass; this was found to be haematocolpos and haematometra - confirmed on both USS and MRI. Clinical history obtained by the gynaecology team detailed a spontaneous vaginal birth at 41 weeks gestation complicated by a massive post-partum haemorrhage (estimated blood loss of 3.5L) caused by vaginal tears and lacerations 15 months prior to the acute presentation. Examination under anaesthesia and repair of the tears was performed by two consultant obstetricians. She required transfusion of three units of blood, two units of fresh frozen plasma and one of platelets and she was started on oral iron. Her post transfusion haemoglobin was 77 g/l she was clinically well and was discharged with routine postnatal follow up arranged.

She went on to develop amenorrhea, cyclical pelvic pain and dyspareunia 6 months postnatally. These symptoms continued to deteriorate to the point that she was unable to engage in intercourse at all. GP consultation had suggested lactation as a cause and she was prescribed lubricants and oestrogen cream. Subsequently clinical examination revealed the vagina to be completely obliterated by adhesions.

Investigations

This patient underwent MRI and USS which identified her palpable pelvic mass to represent haematocolpos and haematometra (Figure 1 and 2).

Figure 1: *USS showing 204.9 mm x 106.4 mm haematocolpos/haematometra.*

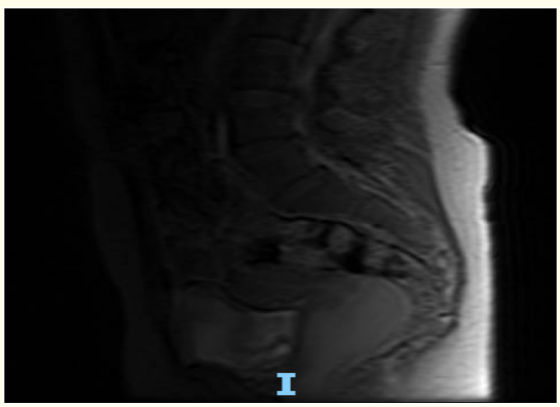

Figure 2: *MRI showing (vaginal collection), normal size uterus.*

Differential diagnoses

The diagnosis of amenorrhoea related to lactation had been considered in primary care, this was from an initial telephone consultation with this patient's GP. We further discuss issues with this case initially being managed over the phone in the discussion below.

Treatment

She underwent the 1st operation, including excision of extensive scarring, opening of the vagina with a combination of sharp and blunt dissection and drainage of approximately 1.5L of blood. The vagina was dilated with a Hegar dilator (up to size 24), followed by further sharp dissection and vaginal packing. Partial vaginal obliteration due to healing was unfortunately discovered ten days post-operatively at follow-up appointment.

A second examination under anaesthesia was performed the following day, the introitus was found to be slightly adherent over the distal 2 cm of the vagina. Again, this was dilated with a 22 mm Hegar dilator, and a spongostan anal sponge was sited, which was left in situ for 24 hours.

Outcome and follow-up

Initial follow up was twice weekly with advice to use vaginal dilators post-operatively for one month. At 6 months post-operatively she reported being able to have sexual intercourse with minimal pain. At 12 months post-operatively she conceived spontaneously and was pregnant with a plan for elective caesarean section in place. At 39 weeks gestation however she presented in spontaneous labour and had a successful uncomplicated vaginal birth of a healthy baby.

Discussion

Literature search reveals cases of acquired vaginal stenosis due to traditional practices in developing countries in West Africa -- female genital mutilation, postpartum injury, fistula repair complications or use of chemicals to narrow the vaginal canal [5]. Case reports also discuss incidences of postpartum vaginal stenosis related to management of post-partum bleeding using chemicals, embolisation and indeed non-repair of vaginal lacerations [2-5]. The phenomenon can also be caused by radiotherapy used to treat gynaecological malignancy [1].

Surgical management with dissection of adhesions followed by post-operative use of dilators is described with a good symptomatic recovery [2,5].

Our report describes a case of iatrogenic vaginal stenosis in United Kingdom related to surgical repair of postpartum vaginal tears. This does not appear to have been reported in the literature previously and highlights another important risk factor for the development of vaginal stenosis when assessing a postpartum patient with previous surgical input.

Detailed clinical history and thorough clinical examination is of utmost importance to avoid misdiagnosis.

Delay was also introduced in this case due to COVID restrictions and initial telephone consultations with her GP. Sooner face to face consultation and clinical examination may have avoided the delay in diagnosis and subsequent acute presentation to A&E. Unfortunately, this is a common issue across all specialties in the UK currently with the ongoing impact of the COVID-19 pandemic.

Further work is needed on risk stratification for those deemed to be at higher risk of postnatal complications, e.g. those with difficult deliveries involving complex tears requiring surgical repair. This could highlight women for early consultant led follow up to ensure appropriate investigations and treatment are initiated as early as possible if necessary.

Whilst there are reports on the management of vaginal stenosis the literature follows management of vaginal stenosis following vaginal reconstructive surgery and radiotherapy. There is an urgent need for clinical practice guidelines covering the presentation, investigation and management of acquired postpartum vaginal stenosis.

Conclusion and Take Home Messages

Vaginal stenosis is defined by fibrosis causing shortening/ narrowing of the vaginal canal. It can be graded according to symptomatic burden alongside clinical findings on examination - e.g. length, dryness and appearance [1,2].

Vaginal stenosis has been linked to unlicensed traditional practice procedures in developing countries [3] as well as other iatrogenic causes such as retained gauze, and unrepaired tears [2,4]. In this report we discuss a case of acquired vaginal stenosis as a post- operative complication after surgical repair of vaginal lacerations following childbirth. This does not appear to have been previously reported in the literature and therefore provides important lessons as well as highlighting a risk factor for what represents a commonly performed postpartum procedure.

From this case and previous case reports, we are able to recognise important common presenting symptoms of dyspareunia, amenorrhoea and other possible symptoms such as pelvic pain and urinary retention as features of this condition. This allows clinicians to add acquired vaginal stenosis to their list of differential diagnoses and subsequently expedite a formal diagnosis.

Complex deliveries increase the risk of common and uncommon postnatal complications - therefore detailed clinical history and examination is fundamental to high standard clinical practice.

Consultant postnatal follow up in complex cases can help to identify any important complications early.

Consent for Publication

Patient consent (verbal and written gained).

Author Contributions

All authors (P Holmes, K Ahmed, S N'Dow and A. Mohamed) contributed to concept/design of work, drafting of the article and revisions including the version to be published.

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