

A surgical approach to management of a large cervical leiomyoma with fertility preservation

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Case Summary

- 21 year old nulliparous woman presented with urinary retention
- Radiological imaging and examination under anaesthetic showed a 12cm vaginal mass originating from the cervix and upper left vagina
- Biopsies were difficult to interpret, but most likely benign (initial diagnosis was anastomosing haemangioma)
- Following angiogram, embolisation was considered not feasible, as the mass did not have a well isolated blood supply
- Surgery was planned to remove the mass whilst attempting to preserve fertility
- Uncomplicated post operative recovery, discharged on day 4 post op



• Now 6 months after surgery, she is well with regular periods and no issues with sexual intercourse

•Final histopath: benign leiomyoma



Vessel loop

anterior

artery

branch of

internal iliac

placed around

Figure 2. Entry into top of vagina above mass anteriorly and ligasure to go around mass

Surgical approach to cervical leiomyoma:



Figure 1. Sagittal MRI

Considerations prior to surgery:

- 1. Diagnostic dilemma given large size of mass
 - initial core biopsy insufficient for diagnosis
 - subsequent wedge biopsy suggested benign pathology but risk of sampling error
 - multi-disciplinary team approach to review pathology and imaging
- 2. Pre operative surgical planning
 - consider ways to reduce risks and manage intra-operative bleeding if it occurs to avoid need for hysterectomy
 - consider how to reconstruct the vaginal vault once the mass has been removed to preserve sexual function and prevent dysparenunia
- 3. Pre operative counseling to patient

• Adequate access

- Lithotomy
- -Midline laparotomy
- •Vessel loops placed around anterior branch of internal iliac artery bilaterally
 - Can be ligated quickly if excessive bleeding, to minimise haemorrhage and need for emergency hysterectomy
- Bladder reflected off uterus and vaginal mass
- Left ureterolysis to ligate left uterine artery at its origin
 - Allow access and removal of cervical fibroid
- Diathermy to enter vagina and Ligasure to go around mass anteriorly, on the left side (left uterine artery already ligated) and posteriorly
- Mass inverted up and removed off the left side of the cervix
- Vaginal wall reconstructed and cervix re-attached to vagina with interrupted 1 Vicryl
 - Care to ensure length and width of vagina remain adequate to preserve sexual function in the future
- Estimated blood loss: 300ml



- identify goals tailored to individual patient (preserve fertility and sexual function) in young nulliparous woman)
- risk of needing life saving hysterectomy
- risks to future fertility and pregnancy (eg. cervical stenosis/incompetence etc)



Figure 3. Mass inverted up and removed off left side of cervix

Left ureterolysis and ligation of left uterine artery to allow mobilisation and removal of cervical fibroid

Figure 4. Small artery clip to ensure cervix intact and then vagina reconstructed to cervix

References:

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Literature review:

• Cervical leiomyomas are rare (<5% of uterine leiomyomas)^{1,2}

- Fertility preserving surgery is usually more challenging due to:¹
 - poor access to operative field
 - distortion of pelvic anatomy
 - increased risk of blood loss and need for emergency hysterectomy

• Surgical approach needs to be modified depending on size and location of cervical leiomyoma^{2,3}

• Small case series have reported these steps to reduce risk of bleeding and avoid hysterectomy:^{2,3,4}

- temporarily or permanently blocking uterine artery blood flow
- intra-operative vasopressin to reduce bleeding during procedure

• Successful pregnancy outcomes reported following cervical myomectomy³