West Moreton Health

Complex post-caesarean wound infection with uterine cavity communication: A case report

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Background

Superficial and deep surgical site infection are recognised complications of Caesarean section, particularly following emergency procedures complicated by dense adhesions or prolonged surgery. Chronic wound dehiscence that fails to resolve with standard wound care should raise suspicion for a deeper source, such as a persistent tract communicating with the uterine cavity. A uterocutaneous fistula or sinus following Caesarean wound breakdown is an uncommon and under-recognised complication, and its management can require prolonged, multidisciplinary, staged surgical care.

Aims

To present a case of recurrent, progressively complex Caesarean wound dehiscence, ultimately identified as a uterocutaneous fistula, and to describe the escalating pathway of investigation and surgical management required to achieve resolution.

Case

A 26-year-old woman, G2P2, underwent a Category 1 emergency Caesarean section under general anaesthetic for fetal distress, in the setting of a placental abruption. The procedure was complicated by dense anterior uterine-to-abdominal-wall adhesions from a previous Caesarean section and a high bladder, requiring a higher skin incision than her prior scar; she sustained a 1.2L postpartum haemorrhage and was discharged home on day 2.

She re-presented 3.5 weeks later with fever, tachycardia, and wound dehiscence with malodorous discharge. Inflammatory markers were markedly elevated (CRP 224) and pelvic ultrasound suggested endometritis. She was admitted for intravenous antibiotics and initially improved, but on day 6 became septic (CRP 401, tachycardic, hypotensive). Urgent CT preceded a return to theatre for wound washout, which identified a large purulent collection deep to the rectus sheath and a 1cm opening in the hysterotomy site communicating with the uterine cavity. A drain was left in situ and intravenous antibiotics continued.

Despite initial improvement, the wound continued to discharge over the following months despite serial dressing changes (PICO and negative-pressure VAC therapy), multiple courses of oral and intravenous antibiotics, and community wound care supports with Post Operative Discharge Support Service (PODSS) and Hospital in the Home (HITH). Repeated outpatient reviews documented persistent areas of induration and ongoing haemoserous ooze without overt signs of infection. A CT abdomen/pelvis performed roughly three months after the original Caesarean section demonstrated a persistent track extending from the anterior uterine fundus/Caesarean scar to the skin, with a small associated collection confirming a chronic uterocutaneous fistula. (Image 1)

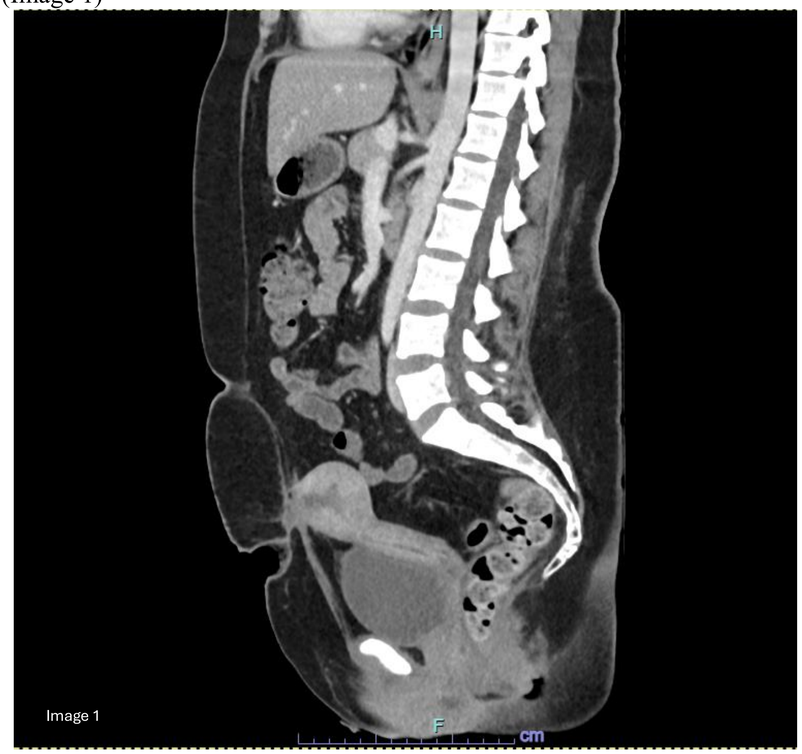

Image 1

She subsequently underwent definitive surgical management: combined hysteroscopy, laparotomy, and wound exploration/revision. This identified a 1×1cm defect in the anterior uterine wall at the fundus, densely adherent to the overlying abdominal wall and continuous with the wound tract. The defect was excised and closed in two layers, adhesions were divided, granulation tissue was debrided from the wound, and the abdominal wall was re-closed with drain insertion. Given the uterine defect and extent of surgery, she was counselled that vaginal birth after Caesarean was not recommended and that an elective Caesarean section at 37 weeks would be advised for any future pregnancy.

Results

Recovery from the definitive repair was comparatively uncomplicated, with an estimated blood loss of 200mL and stable postoperative haemoglobin. She mobilised well, and the drain was removed on day 2 with a switch to oral antibiotics and a course of thromboprophylaxis. She was discharged on day 3 post-surgery.

Serial outpatient follow-up over the subsequent six weeks showed progressive wound healing, with sutures removed in a staged fashion. A follow-up abdominal wall ultrasound six weeks after the repair showed diffuse scar/fat necrosis change with two small organising seromas, without evidence of a significant recollection. By final review, approximately four months after the original Caesarean section, the wound had healed fully with no ongoing discharge, dehiscence, or signs of infection, and she was discharged from outpatient follow-up.

Discussion

This case illustrates an unusual trajectory of Caesarean wound complications progressing from apparently straightforward surgical site infection to a chronic uterocutaneous fistula requiring multi-stage surgical management over several months. Several points are of educational value: persistent wound discharge that continues despite clinically resolving infection and normalising inflammatory markers should prompt consideration of a deeper communication and early cross-sectional imaging; source control with washout is necessary but may not be sufficient when a fistulous tract has formed, and definitive repair may require laparotomy with excision of the tract and formal closure of the uterine defect; sustained community wound care is essential to support prolonged negative-pressure dressing management outside hospital; and future-pregnancy counselling – including mode of delivery must be revisited once a uterine wall defect has been identified, given the implications for uterine integrity in subsequent pregnancies. The patient's prolonged, distressing course over several months also underscores the importance of proactive psychosocial support alongside ongoing surgical care.

References

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