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Case Report

Spontaneous repositioning of incarcerated gravid uterus following general anaesthesia: a case report and review of literature

Roziana Ramli^{1*}, Mohd Nasir Tak Abdullah¹, Wan Norhayati Wan Yusoff², Suryawan Tasref³,
Norzilawati Mohd Naim¹

¹Department of Obstetrics & Gynaecology, Hospital Sultanah NurZahirah, Kuala Terengganu, Malaysia

²Department of Diagnostic and Imaging, Hospital Sultanah NurZahirah, Kuala Terengganu, Malaysia

³Department of Anaesthesiology, Hospital Sultanah NurZahirah, Kuala Terengganu, Malaysia

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***Correspondence:**

Dr. Roziana Ramli,

E-mail: drroziana@yahoo.com

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ABSTRACT

A 28 year old primigravida at 16 weeks pregnancy presented with voiding difficulties, pelvic pain and acute urinary retention. Clinical and ultrasound examination were suggestive of Incarcerated Uterus and diagnosis was confirmed by a pelvic MRI. Manual repositioning under anaesthesia was planned following a failed procedure in the outpatient clinic. Immediately post induction with general anaesthesia, interestingly spontaneous repositioning of the uterus occurred without any manual manipulation. This is the first case report describing a spontaneous repositioning of incarcerated uterus following general anaesthesia.

Keywords: Incarcerated gravid uterus, General anaesthesia, Spontaneous repositioning

INTRODUCTION

Incarcerated gravid uterus is a rare obstetric complication with potentially catastrophic outcome. Once diagnosed, it is recommended that correction to the normal uterine position be attempted early. Repositioning after mid-trimester onwards are more likely to fail and may cause preterm labour.^{1,2} Technically challenging trans-vaginal caesarean deliveries have been described late gestations in uncorrected cases.^{3,5}

We report an interesting case of an incarcerated gravid uterus who had a spontaneous uterine repositioning following general anaesthesia without any further need for manual manipulation. Based on this report, we believe that the management of incarcerated uterus at late gestation is feasible with the aid of general anaesthesia.

CASE REPORT

A 28 year old primigravida was seen at 16 weeks with

prior history of acute urinary retention. Other symptoms include incomplete voiding, urinary frequency, persistent pelvic pain and backache. Clinically, the uterus size was smaller and equivalent only to 12 weeks. Vaginal examination revealed a 'firm mass' at the pouch of douglas and the cervix was anteriorly displaced behind the symphysis pubis.

Ultrasound showed a single foetus with normal foetal parameters and noted to be as though 'standing on its head'. The urinary bladder was seen superior to the gravid uterus. Diagnosis of incarcerated uterus was suspected and MRI pelvis was done to confirm the diagnosis.

Following diagnosis, attempts to reposition the uterus in the outpatient setting without anaesthesia proved to be unsuccessful. In the operating theatre, the previous clinical findings were re-confirmed just prior to induction by anaesthetic drugs. The patient was induced with IV Fentanyl 75 mcg, IV Thiopental 200 mg, IV Suxamethonium 75 mg and maintained with

Oxygen/Sevoflurane and IV Tracurium 20 mg. Immediately post induction before manual repositioning, it was noted that the uterus was suddenly palpable at 16 weeks which was equivalent to her dates. Vaginal examination revealed an axial cervix and fullness at POD was suddenly no longer present. Diagnosis of spontaneous correction of incarcerated uterus was made and the planned procedure was cancelled.



Figure 1: Sagittal, T2-weighted image showing incarcerated uterus with an acute cervicouterine angle.

b=bladder, c=cervix, f=fundus of uterus, s=symphysis pubis, v=vagina.

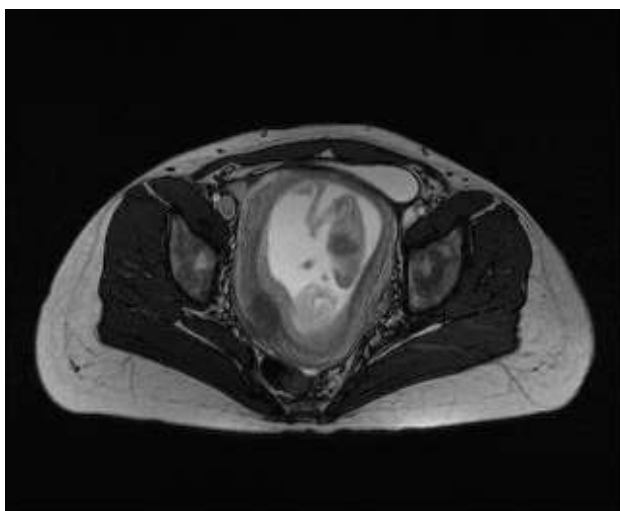


Figure 2: Baby 'standing on its head' appearance.

The patient was totally free of prior symptoms and her subsequent antenatal visits were all unremarkable. She went into spontaneous labour at 38 weeks and delivered a healthy 2.49 kg baby girl uneventfully. Post-partum examination 2 months later showed a normal size retroverted uterus. The patient was advised to come early during subsequent pregnancy to exclude recurrence.

DISCUSSION

Retroversion in the first trimester is reported to occur in up to 15% of pregnancies⁶. In majority of cases, the retroverted uterus will spontaneously correct itself when it transforms from a pelvic organ to abdominal organ by 14 weeks. In some cases however, the spontaneous correction of uterine position fails to occur and the uterus becomes wedged in the pelvic cavity as pregnancy progresses. Pre-existing conditions that may predispose a patient to incarcerated uterus include adhesions from endometriosis or pelvic inflammatory disease, anatomical abnormalities, pelvic tumours and uterine fibroids.^{7,8} In many cases however, no predisposing factors were identified.

Symptoms may result of uterine impingement onto adjacent structures like the bladder anteriorly and the rectum posteriorly. Pressure symptoms such as pelvic discomfort, low abdominal or pelvic pain have been reported. Serious complications may occur including uterine rupture, bladder rupture, cervico-vaginal fistula and rectal gangrene.⁹ Cases of maternal and foetal death have also been described.^{10,11}

The incidence of incarcerated uterus has been quoted to be around 1 in 3000 to 10,000 cases.¹² In the authors' institution where electronic medical record has been used over period of 5 years involving more than 60,000 deliveries, this is the first case ever recorded.

Management

Due to its rarity, the management of incarcerated gravid uterus is largely theoretical and based on literature case reports. Once diagnosed, the most appropriate treatment would be correction of the retroverted uterus. Gibbons and Paley¹ in 1969 stated that attempts to correct uterus position later than the 15 weeks are more likely to fail and are associated with poor foetal outlook, quoting foetal loss rate of 33%. Van de Tuuk et al.³ dealt with a recurrent case in the 2nd pregnancy at 18 weeks, however repositioning was not attempted due to this fear. The patient had to undergo technically challenging 2nd. Trans-vaginal caesarean delivery in the end. More recent reports report successful repositioning in later gestations.¹²⁻¹⁴ Lettieri et al.⁹ in 1994 suggest uterine repositioning be performed in gestations between 14-20 weeks. Most clinicians would not attempt uterine repositioning if incarcerated uterus is diagnosed beyond 20 weeks. Delivery is inevitably by caesarean section in these cases

and even with proper planning, inadvertent injuries to the cervix, vagina and bladder still occur.

Spontaneous repositioning of incarcerated uterus has been reported but this is the first case reported case of spontaneous repositioning following general anaesthesia.^{12,15,16} General anaesthesia allows flaccidity and relaxation of both pelvic and abdominal musculoskeletal tissue which would aid in the repositioning. Grossenburg et al.¹³ who successfully managed a case at 21 weeks concluded that the use of ultrasonography for guidance along with general anaesthesia during manual reduction may aid the release of a late second-trimester incarcerated uterus. General anaesthesia also allows conversion of procedure to laparoscopic correction or even laparotomy if digital manipulation fails.

CONCLUSIONS

This report illustrates the importance of general anaesthesia in the management of incarcerated uterus and we believe repositioning of incarcerated uterus at late gestation is feasible.

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