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Is Adenomyosis a Rare Cause of Post-Partum Haemorrhage?

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Abstract
Post-partum haemorrhage is the leading cause of maternal mortality worldwide. The use of management guidelines has improved outcomes resulting in reduction in mortality rates. Adenomyosis is associated with infertility. Anecdotal reports of adverse pregnancy outcomes have been described. 2 cases of secondary post-partum haemorrhage are described in this report with a short discussion of its causation and impact.

Keywords: Adenomyosis; Post-Partum Haemorrhage; Maternal Mortality

Case 1
A 35 year old P1 presented at 10 days post vaginal delivery with bleeding. She was afebrile, normotensive but tachycardic. The abdomen was soft and the uterus just palpable. Pelvic examination revealed an open cervical os and a 14-week size uterus. A diagnosis of retained products of conception was entertained and curettage was undertaken under appropriate antibiotic cover. The procedure was uneventful; blood loss was about 800ml intra operatively. The post-operative period was uneventful, and the patient was discharged after 2 days. Histopathology at review revealed strips of curetting as myometrium with adenomyotic foci. No other significant findings were noted.

Case 2
A 38 year old multiparous lady presented 2 weeks post normal vaginal delivery with profuse bleeding. She was hypotensive and tachycardic with a soft abdomen and a 16 week size uterus on palpation. The uterus was soft to firm in consistency. There was no response to conservative management with oxytocics and following initial resuscitation she underwent an examination under anaesthesia. Due to continued bleeding in theater a decision to perform a total abdominal hysterectomy was made. Total blood loss was about 2500ml and 3 units of whole blood were transfused intra operatively. Recovery was uneventful and histopathology revealed an adenomyotic uterus. There was no evidence of retained products of conception.

Discussion
About 830 women die every day due to pregnancy or a related complication [(1)]. Post-partum haemorrhage, hypertensive diseases in pregnancy and sepsis account for more than 50% of these deaths

[2]. Worldwide the chief cause of maternal mortality is post-partum haemorrhage, the primary cause being uterine atony. It is estimated that a woman dies every 10 minutes due to post-partum haemorrhage [3] and the major burden of this catastrophe is shouldered by the underdeveloped and developing world.

In Malaysia, post-partum haemorrhage is still a major cause of maternal mortality accounting for about 11% of cases [4]. Post-partum haemorrhage is however no longer the chief cause of maternal mortality in Malaysia.

The reduction in maternal mortality attributed to post-partum haemorrhage maybe attributed to the wide spread use of protocols and simulation to manage the 4 major causes of primary post-partum haemorrhage viz atony, retained products, genital tract trauma and coagulopathy.

Adenomyosis is a non-neoplastic benign disorder characterized by the invasion of endometrium into the myometrium. Traditionally it was thought to be common in multiparous women, presenting with heavy menstrual bleeding and dysmenorrhea. A definitive diagnosis can be made only by examination of hysterectomy specimens. Limitations in other modalities for diagnosis have hampered diagnosis of this condition without surgery. Recent improvements in imaging techniques such as trans-vaginal ultrasound and magnetic resonance imaging have made diagnosis possible in younger patients with symptoms of dysmenorrhea and heavy menstrual bleeding. It is also becoming increasingly evident that adenomyosis may be associated with concurrent endometriosis and possibly infertility as well [5].

The association of adenomyosis with poor pregnancy outcome has been established though numbers are small. A study of the literature yielded 29 cases [5]. Complications include:

- Preterm birth.
- Premature rupture of membranes.
- Increased risk of caesarean section.
- Post-partum haemorrhage/uterine atony.
- Uterine rupture.

The exact cause of post-partum haemorrhage in these patients with adenomyosis is unclear but it has been suggested that myometrium function maybe impaired due to endometrial invasion resulting in uterine atony [5]. This would normally result in primary post-partum haemorrhage as compared to the 2 cases in our series who presented with secondary post-partum haemorrhage.

In both the cases described above the patients were in their mid-thirties, this fits into the demographic of patients who may present with adenomyosis.

Adenomyosis may be associated with infertility. Treatment of infertility may result in multiple pregnancy and these patients are often subject to induction of labour and caesarean section for delivery. All of these three latter conditions are independent risk factors for post-partum haemorrhage as well. This may partially explain the increased risk of post-partum haemorrhage in patients with adenomyosis and infertility. Our 2 patients however did not have any such risk factors.

Patients in whom the diagnosis of adenomyosis is suspected prior to pregnancy should be treated as high risk for post-partum haemorrhage and the other complications enumerated above [2]. However, this is a challenge as up to 30% of patients with adenomyosis are asymptomatic [5].

Changes in the demography of patients, advancing maternal age, increasing rates of infertility and its therapeutic options will result in more high-risk pregnancies. While it is clear that there exists an association between adenomyosis and adverse obstetric outcomes, the exact mechanisms are unclear. Until clear pathophysiological pathways are worked out the associations are anecdotal but should not be ignored. Awareness of the possibility of complications and the adverse outcomes associated with

adenomyosis and pregnancy will help avoid the catastrophic consequences that maybe associated with post-partum haemorrhage.

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CHANGES IN PATIENT PROFILES IN OBSTETRICS MAY RESULT IN NEW CAUSATIONS FOR POST PARTUM HAEMORRHAGE.
ADENOMYOSIS IS ANECDOTALLY ASSOCIATED WITH POST PARTUM HAEMORRHAGE.
VIGILANCE IN THE FACE OF SUCH PATIENTS MAY PREVENT AN ADVERSE OUTCOME.

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