CASE REPORT

Anatomical variation in the rudimentary horns of a unicornuate uterus: implications for laparoscopic surgery

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A case of laparoscopic excision of a rudimentary horn is presented. The anatomical features of this case are contrasted with others in the published literature. A 23 year old nulligravida presented with severe dysmenorrhoea and vaginismus. The patient experienced menarche at age 12 and had regular cycles at 28–29 day intervals. Menses lasted 7 days with severe dysmenorrhoea causing repeated absenteeism. Neither non-steroidal anti-inflammatory analgesics nor oral contraceptives alleviated the pain.

Physical examination was extremely difficult due to severe vaginismus. Pre-operative ultrasound revealed a left complex adnexal mass suspected of being an endometrioma. The right ovary appeared normal. Pelvic examination under anaesthesia revealed a left adnexal mass. Laparoscopy was performed with a 10 mm scope placed intra-umbilically. A 10 mm trocar was placed in the left lower quadrant, and a 5 mm trocar was used in the right lower quadrant. The patient was noted to have severe endometriosis with a left 3 cm endometrioma and a left haematosalpinx (6.0×3.5×3 cm). The patient also had a left 5.5×3.5×3 cm rudimentary horn attached to the unicornuate uterus by a band of tissue. Knowledge of both types is important to avoid complications such as bleeding and possible compromise of myometrial wall thickness.

Key words: laparoscopy/rudimentary horn/unicornuate uterus

Introduction

The most widely used classification of a unicornuate uterus does not describe the anatomical variations in the rudimentary horn [American Fertility Society (AFS), 1988]. Rudimentary horns can vary in three basic ways. First, they may be cavitated or non-cavitated as determined by the presence or absence of an endometrial cavity respectively. Second, if an endometrial cavity is present, it may or may not communicate with the uterine cavity of the unicornuate uterus. Non-communicating cavitated rudimentary horns are the most clinically significant as they are more likely to be associated with pelvic pain from haematometra or from endometriosis due to retrograde menstruation. Also, pregnancies in these rudimentary horns may be diagnosed late with rupture in the second trimester (Chang et al., 1994; Kriplani et al., 1995). Lastly, the rudimentary horn may be part of the unicornuate uterus or it may be attached to the unicornuate uterus by a band of tissue. In a reported series of obstructing uterine malformations, Pinsonneault and Goldstein (1985) described a rudimentary horn that could be either firmly attached to the unicornuate uterus or separated by a band of tissue. We present a case
Figure 1. Rudimentary horn attached to the unicornuate uterus by band of tissue. The blood supply to the rudimentary horn courses below the band of tissue. Plane of dissection delimited by dotted lines.

Figure 2. Rudimentary horn firmly attached to the unicornuate uterus. The blood supply to the rudimentary horn courses lateral to the unicornuate uterus and below the rudimentary horn. Plane of dissection delimited by dotted lines.

Discussion

Mullerian anomalies have increasingly been managed by surgical procedures that avoid laparotomy with excellent reproductive outcome (Fedele et al., 1996). The rudimentary horns of a unicornuate uterus can also be managed by surgical techniques that avoid laparotomy. However, the experience of any one centre is limited by the relative rarity of this particular malformation (Pinsonneault and Goldstein, 1985).

There is an association between obstructing Mullerian anomalies with renal abnormalities and endometriosis. Therefore pre-operative assessment for renal anomalies by renal ultrasonography should be performed routinely. Patients usually present with a history of pelvic pain and dysmenorrhoea. The pelvic examination may reveal signs of endometriosis and a pelvic mass. The mass may represent the rudimentary horn or an ovarian endometrioma. Pre-operative evaluation with transvaginal ultrasonography, urography and possibly magnetic resonance imaging may aid in the diagnosis. Transvaginal hysterosonographic evaluation has recently been demonstrated to be an important method for the diagnosis of congenital abnormalities of the uterus (Salle et al., 1996). Accurate diagnosis of the type of anomaly is critical in order properly to assess the appropriate surgical approach. Of the four case reports of laparoscopic management of rudimentary horns cited in the literature, two described a rudimentary horn firmly attached (Nezhat et al., 1994; Falcone et al., 1995), one described the rudimentary horn attached by a band of tissue (Mais et al., 1994) and the other did not describe the relationship (Canis et al., 1990).

It is important to be prepared for either presentation. In the first type (Figure 1), it is relatively easy to dissect the rudimentary horn from the unicornuate uterus, while the second type (Figure 2) will require a difficult dissection to develop a plane between the two horns. In the first type, the major blood supply to the rudimentary horn courses below the adhesive band. As in our case, however, aberrant vessels may also supply the rudimentary horn. The ureter should first be identified because of the common association of these obstructed lesions with endometriosis and urological anomalies. If the ureter is difficult to identify transperitoneally, a retroperitoneal approach is required for ureteral identification and dissection. The band can then be transected easily with electrocautery or a stapling device. The vessels are easily seen, occluded and cut. The ipsilateral Fallopian tube should be removed if the contralateral tube is normal because of the rare possibility of an ectopic pregnancy. However if the contralateral tube is
damaged then microsurgical Fallopian tube transposition can be considered (Goldberg and Friedman, 1988).

In the second type of malformation (Figure 2), the blood supply will course lateral to the unicornuate uterus and below the rudimentary horn. The ureter is identified and dissected. The blood supply to the rudimentary horn is not as easily identified or dissected, as it is contiguous with the underlying myometrium. The separation of the rudimentary horn cannot be achieved with a stapling device because there is no pedicle. A plane between the rudimentary horn and the unicornuate uterus can be created with sharp dissection with scissors and electrocautery. There is a higher probability of dissecting into the unicornuate uterus with resultant heavy bleeding and possible compromise of myometrial wall thickness. However, resection can be accomplished safely by laparoscopy with no compromise of myometrial integrity (Falcone et al., 1995).

References


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