ABSTRACT

Introduction: Abnormal uterine bleeding (AUB) is a common presentation in the field of gynecology. Proper diagnosis and management of this condition can be difficult and permanent treatment options, including robotic hysterectomy, may be necessary. In patients with a history of previous abdominal surgery, pelvic adhesions may present obstacles to this surgical approach.

Case Report: In this case report, a 41-year-old woman desired permanent treatment for AUB. The patient underwent endometrial biopsy which revealed inexplicit squamous morules. She opted for permanent treatment via robotic hysterectomy. Her operation was complicated by the presence of dense pelvic adhesions caused by previous surgeries.

Conclusion: This report aims to detail the potential difficulties in the clinical management of inconclusive biopsy results and in using a robotic approach to hysterectomy in the setting of pelvic adhesions. Authors encourage ongoing clinical investigation to determine the optimal methods for diagnosing and treating AUB.

Key words: abnormal uterine bleeding case report; robotic hysterectomy; squamous morules

Introduction

A typical menstrual cycle averages 24 to 38 days, lasts 7 to 9 days, and involves approximately 5 to 80 milliliters of blood loss. Variation from these parameters characterizes abnormal uterine bleeding (AUB), a condition affecting up to one-third of women. AUB can have both structural and non-structural causes. Structural causes are often notated using the pneumonic PALM—polyp, adenomyosis, leiomyoma, and malignancy or hyperplasia. Non-structural causes are abbreviated COEIN—coagulopathy, ovulatory dysfunction, endometrial disorders, iatrogenic, or not classified [1]. Various medical and surgical treatment options are available based on the underlying etiology. Patients with AUB refractory to traditional treatment may request a more radical approach, including the removal of the uterus via hysterectomy. Following FDA approval in 2005, the robotic approach to hysterectomy has been increasing in popularity amongst gynecologic surgeons and their patients. This minimally invasive method is associated with shorter hospital stays and faster returns to activities of daily living [2].

A common effect of obstetric and gynecologic surgical procedures, including hysterectomy, myomectomy, ovarian cystectomy, and Cesarean delivery, is the postoperative development of pelvic adhesions. Surgical trauma induces
inflammation, subsequently recruiting macrophages, fibroblasts, and extracellular matrix proteins to the site of injury. This process results in the formation of adhesions, bands of connective tissue, within the pelvic cavity. Adhesions are associated with numerous postoperative morbidities including small bowel obstruction, infertility, and chronic pain [3]. While interventions for the prevention of pelvic adhesions are currently being explored, this case report details the consequence of pelvic adhesions in the surgical performance of robotic hysterectomy in a patient requesting the permanent treatment of refractory AUB.

Case Presentation

A 41-year-old female presents for evaluation of painful, prolonged, heavy menstrual bleeding. She reports bleeding is severe, necessitating multiple transfusions over the past 11 years. Anemia is also reported, with hemoglobin levels having dropped as low as 6 g/dL. Symptoms have been nonresponsive to oral contraceptive therapy. Medical history is significant for acid reflux, type II diabetes mellitus, and morbid obesity. Obstetric and gynecologic history includes two dilation and curettage (D&C) procedures, a laparoscopic right ovarian cystectomy, and one Cesarean section. The patient notes persistent right lower quadrant pain since her cystectomy four years prior. She has no history of abnormal pap smears and family history is negative for gynecologic malignancies.

Bimanual exam is significant for an anteverted uterus of eight-weeks size. No abnormalities of the external genitalia, vagina, or cervix are noted. Adnexa are nontender and non-enlarged on palpation.

Possible diagnoses including intramural uterine leiomyoma (based on mild uterine enlargement) and endometrial hyperplasia (based on severity of bleeding and patient BMI) are considered and discussed. The patient agrees to a diagnostic transvaginal ultrasound. This reveals an endometrial lining which is approximately 2.0 cm thick but no other uterine abnormalities. Visualization of the ovaries also reveals no abnormality. Results are discussed with the patient and consent is obtained for further evaluation via D&C endometrial biopsy (EMB). EMB pathology report notes the following: “Scant fragments of shedding weakly proliferative endometrium with secretory glands and extensive squamous morular proliferation.” Written commentary expands upon this statement noting, “Squamous morules can be seen in association with normal endometrium, endometrial polyp, atypical polypoid adenomyoma, endometrial hyperplasia, or a low-grade malignancy. Clinical correlation and/or D&C is advised if clinically indicated.”

After a discussion of the biopsy results and the risks and benefits of treatment options, including more-extensive D&C and hysterectomy, the patient desires a robotic hysterectomy for the definitive treatment of endometrial squamous morules and menometrorrhagia. In addition, the patient requests removal of her right ovary due to persistent right lower quadrant pain and for the prevention of future ovarian cysts. A robotic hysterectomy with bilateral salpingectomy and right oophorectomy is planned.

The patient undergoes general endotracheal anesthesia. A vaginal speculum is inserted, and four abdominal ports are placed and attached to the da Vinci robot. Abdominal inspection reveals dense adhesions spanning the omentum, greatly obscuring the pelvis. These adhesions are excised, permitting visualization of the pelvic cavity which contains a bulky, irregular uterus. Additional adhesions can be seen between portions of the bowel, omentum, and left ovary (Figure 1). These are lysed to facilitate salpingectomy. When observing the right adnexa, a large remnant of the patient’s previous ovarian cyst is noted along with ovarian adhesions to the right pelvic side wall (Figure 2). This ovary is removed as planned. Orienting inferiorly, dense adhesions are seen along the anterior surface of the bladder. These are excised down to the lower segment of the uterus and the uterus and fallopian tubes are subsequently extracted.

Figure 1: Left ovary (circled in blue) with adhesions to the bowel and omentum.

Figure 2: Right ovary with a remnant of previous ovarian cyst.
The patient leaves the operating room in stable condition and is admitted for postoperative monitoring and is then discharged without complications. Subsequent biopsy of the uterus reveals a benign endometrial polyp without hyperplasia or malignancy. The specimen weighs 193.6 g. Biopsies of the right ovary and bilateral fallopian tubes also reveal benign pathology. The patient is expected to make a full recovery in four to six weeks.

Discussion

Abnormal uterine bleeding (AUB) is a prevalent condition which poses a diagnostic challenge to gynecologists [1]. In recurrent or refractory cases, hysterectomy may be necessary to provide permanent relief. Advances in non-invasive surgery have allowed this procedure to be performed robotically, aiding in patient recovery time [2]. Both prevention of open abdominal surgery and a timely return to activities of daily living were considered strengths of the management approach detailed in this case report. Yet, as demonstrated, a robotic hysterectomy may be complicated by pelvic adhesions. Physicians may need to consider this in treating patients with a history of abdominal or pelvic surgery. While the patient in this case had preoperatively consented for the removal of her right ovary, this could have been an unforeseen morbidity of the procedure. Furthermore, by both obscuring the surgical field and necessitating excision, pelvic adhesions may place patients at higher risk for bowel or bladder perforation or increased bleeding.

In addition to highlighting the surgical barriers of pelvic adhesions, this case emphasizes the complexity of interpreting nonconclusive biopsy results. As noted in the referenced pathology report, squamous morules are associated with a variety of histologic and clinical presentations. Current research corroborates these statements. A study by Lin et al. reveals that lesions with isolated squamous morules without concomitant glandular findings are associated with a 16.1% persistence rate and a 6.5% risk of progression to cancer. Lesions with both squamous morules and glandular cells, as seen in this case report, have an 11.1% persistence rate and no progression to cancer. Prior research suggests that these outcomes may be explained by the regulatory effects of estrogens and progestins on glandular proliferation [4]. Regardless, pathologists agree that management of endometrial lesions with squamous morules should be based on clinical judgement. In this case report, the patient and physician collaboratively opted for robotic hysterectomy to absolve the risk of endometrial malignancy and provide a permanent treatment for AUB.

Conclusion

Both conservative and radical approaches can be taken in the management of abnormal uterine bleeding and indistinct biopsy results. Robotic hysterectomy provides a minimally invasive, definitive treatment option; however, this surgical procedure may be complicated by pelvic adhesions in patients with a history of abdominal or gynecologic surgery. Clinical judgement and patient collaboration should be utilized to determine the best approach for improving patient health and quality-of-life.

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Data Availability: Data from this case report may be made available upon reasonable request.

References