

Case Report

Case Report of Recurrent Abdominal Wall Endometrioma at the Same Location after Nine Years of Its First Excision

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Abstract

Abdominal wall endometriosis is uncommon among women within the reproductive age group. In Europe, its estimated incidence is between 0,03-3,5%. Abdominal endometriosis is suspected in patients who complain of cyclic pelvic pain or a tender mass within or adjacent to a surgical scar or caesarean section scar on physical examination. Ultrasound, magnetic resonance image and computed tomography are helpful tools to diagnose abdominal endometriosis however histologic examination is required for confirmation. The standard treatment for abdominal wall endometriosis is surgical excision. However, a proper surgical technique could prevent abdominal wall endometriosis after uterine surgery. According to our knowledge, we present a literature review and a case report of a 44 years old woman with recurrent abdominal wall endometrioma, noted on the fascia, which was resected 9 years ago by the same team in our hospital.

Keywords: Abdominal wall; Endometrioma; Endometriosis; Fascia; Recurrence

Abbreviations: US: Ultrasound; CT: Computerized Tomography; MRI: Magnetic Resonance Imaging; AWE: Abdominal Wall Endometriosis; BMI: Body Mass Index

Introduction

The endometriosis is defined as the growth of ectopic endometrial tissue (glands and stroma) outside the uterine cavity. These implants can be found around the abdominal cavity, but less frequently it can involve extrabdominal sites such as the pericardium, the brain, the lungs or the bladder [1]. When this endometrial tissue involves the abdominal wall, usually, it is associated with a history of surgical procedures such as C-sections, hernias, laparotomies, laparoscopy port sites or hysterotomies. However, in the literature, there are few cases of recurrent nodes after previous excision [1].

Case Description

In 2014, a 44 year old woman was referred to our department complaining of menorrhagia. The bleeding started with insidious onset few months ago however; it was not associated with cyclic abdominal pain or dyspareunia. Her medical history was significant for a laparoscopic chromopertubation procedure where endometriosis (grade II) was diagnosed, and two C-sections in 2001 and 2003 without complications. In 2005, our surgical team excised an abdominal wall endometrioma successfully. The endometrioma was situated on the abdominal fascia at the C-section scar level. Due to the original size of the mass, the surgical team counselled that mesh repair may be necessary for the patient. However, the patient was administered Decapeptyl for 5 months prior to the surgical procedure to reduce the volume of the mass and to avoid the use of mesh for abdominal fascia repairing. No postoperative complications were noted.

Pertaining the latest complaint, abdominal and pelvic examinations were unremarkable except for a Pfannenstiel scar healed by primary intension. An ultrasound (US) study report that was provided by the patient, revealing a myoma of 37 × 41 mm located at the cervical isthmus level, close to the endometrial line. Given the previous medical history and the myoma small size and location, the patient was counselled for expectant management and re-evaluation after 6 months.

After 6 months, the patient was still complaining of menorrhagia.

Gynaecological US performed in our hospital revealed a 43 × 49 × 61mm intramural fibroid encroaching into the endometrial cavity. Furthermore, a regular hypoechoic mass 17 × 10 mm at the level of the fascia was observed (Figure 1). In order to obtain precise information regarding the location



Figure 1: Abdominal wall node localized by US.
Size: 18.38 × 10.94 mm

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and the degree of extension of the lesion, a computerized tomography (CT) was recommended; consequently the lesion was described as solid, regular mass of $19 \times 19 \times 14$ mm at the level of the subcutaneous tissues just above the abdominal wall muscles (Figure 2). However, the team was not able to obtain precise diagnosis, therefore, histological study was recommended.

In order to obtain histological sample of the node and to control the patient's menorrhagia, surgical intervention was required. Given the patient's age, past surgical history and her desire not to preserve her fertility, our surgical team recommended total simple abdominal hysterectomy by laparotomy and node with wide-margin excision. Intra-operatively, the node was noted to be white in colour with elastic consistency, implanted on the abdominal fascia. There were no peritoneal implantations of endometriosis therefore, a total abdominal hysterectomy with complete node excision was performed successfully and the abdominal wall repair did not require mesh insertion. Postoperative histological node examination revealed endometrial tissue (stroma and glands) and a total free margin excision was confirmed (Figure 3). The histological examination of the uterus revealed the previous fibroid observed by US without adenomyosis signs. Herein, we declare that, this is a novel case of recurrent abdominal wall endometriosis (AWE) that was implanted on the fascia at the same location after nine years of excision.



Figure 2: Abdominal wall node localized by CT.
Size $19 \times 19 \times 14$ mm

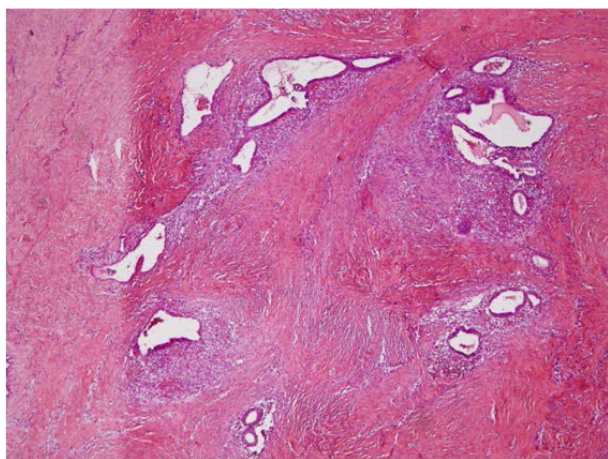


Figure 3: Increased 4x. Hematoxylin eosin staining.
We can see stroma and a group of endometrial glands over dense collagen

Discussion

Endometriosis is a benign disease in which functioning endometrial tissue is present outside the uterine cavity. It occurs in up to 15% of women in the reproductive age group (age range 15-57 years) [2]. This ectopic endometrial tissue is mostly detected intra or extrapelvic and it rarely involves the abdominal wall. When the abdominal wall is affected, the visceral peritoneum layer is the most commonly affected [2]. The AWE is a rare occurrence that some authors have reported incidences between 0,03-3,5% [3]. Unfortunately, due to this rarity and the necessity of histological confirmation for diagnosis, it is difficult to estimate the current incidence. This entity affects young women of reproductive age, most frequently between 25-35 years old [4]. Common clinical manifestations described on the literature are cyclic abdominal pain or cyclic bleeding; furthermore, abdominal masses can also be detected on physical examination.

According to the literature, the recurrence of AWE at same location after surgical treatment is infrequent. Its incidence is between 0,5 to 2% of the previously diagnosed cases, depending on the studies reviewed [4]. However, the recurrences rates could reach 29% according to a systematic review by Horton et al. [5].

According to our knowledge, this is a novel case report of recurrent endometrioma at the same location on the abdominal wall after its previous excision. Patterson et al. [4] reported one case among 8 patients of a recurrent abdominal node after 22 months of the first excision. This patient required a second surgical intervention. In a retrospective review by Kang et al. [6] of 37 AWE cases, there was one recurrence after 34 months from prior surgery. However, the later patient received GnRH-agonist as treatment.

The average time between prior abdominal surgery and the first presentation of AWE is about 7 years [2] (range 1-32 years). Due to this delay, it is important to maintain a high clinical suspicion when the symptoms are suggestive of AWE. Despite the fact that pathogenesis is not clearly understood and the predictive factors are still unknown, the history of a previous surgical procedure is the most common detected factor in these patients. In contrast, AWE is identified in the 9% of patients with no prior history of abdominal surgeries [2]. However, there are risk factors that are attributed to AWE including: elevated body mass index (BMI), multiparous women and prior surgeries that require accessing uterine cavity. Therefore, C-section is the most common procedure that is related to AWE. The latter is present in 81% of the cases [2]. In addition, the incidence of AWE after C-section is estimated between 0,03 and 1,08% [4-9].

As previously mentioned, the pathogenesis of AWE is not yet recognized and might be best explained by "iatrogenic direct implantation theory" [2]. In our case, the endometrial tissue implantation may have occurred during her previous C-sections. However, the first surgical procedure performed in our patient was the laparoscopic chromopertubation (to exclude infertility), which was performed prior to the C-sections.

The iatrogenic direct implantation theory is also supported by a case reported by Mistrangelo et al. [7]. His patient surgical history was significant for C-section for obstetric indication however; she was referred due to the presence of tender palpable abdominal mass at the site of the previous surgical scar. The mass was excised after thorough investigation. Despite the fact that the postoperative course of the mass excision was uneventful for 1 year, the patient represented with recurrent node at the site of the previous mass excision associated with lower abdominal pain. Gestrone administration (2 times per week for 4

months) was advised to control the pain and reduce the mass size. Finally, surgical intervention was required due to failure of medical treatment to eliminate the pain. During surgery the nodes were noted to be implanted only on the abdominal rectal muscles not the abdominal fascia.

In contrast, our patient remained asymptomatic except for the swelling that was noted on the Pfannenstiel incision on physical examination. Usually a cyclic lower abdominal pain with the menstruation in association or not with changes in the size of the mass is a common complaint among the patients affected by AWE [8]. Furthermore, classical symptoms of endometriosis including dyspareunia and/or dysmenorrhea are related to AWE and increase the clinical suspicion of its diagnosis.

In our case, an abdominal US was performed as a first step in the management in order to determine the location and the characteristics of the detected node. Advantages of ultrasonographic studies in diagnosing abdominal masses include: availability and its low cost compared to CT or magnetic resonance imaging (MRI), as well as its efficiency in the assessment of superficial abdominal nodes [9]. However, this technique has its limitations and most of the findings are nonspecific. In addition, a wide spectrum of abdominal wall masses should be considered in the differential diagnosis. Accordingly, a CT was performed to depict the extent of the disease preoperatively.

In order to obtain precise information regarding the site and the degree of extension of endometriosis, MRI offers more precise location information, especially when the mass is located in the soft tissues and when the diameter of the mass is more than 4 cm [10]. Some authors suggest that, US guided biopsy is not recommended when endometrioma is suspected due to the potential risk of cellular spread during the invasive procedure, and consequently, the risk of recurrence related to the technique [11,12].

When the AWE is localized and it is not associated with medical complaints, the success rate of medical treatment has been reported to be low, offering a temporary management and usually followed by recurrence [13]. A proper surgical technique may prevent AWE after any uterine surgery. Once the mass is diagnosed, it is recommended to perform a wide local excision with negative margins with the aim to avoid future recurrences due to surgical intervention [14]. The risk factors for recurrence of AWE reviewed by Zhao et al. [15] are the mass size and its infiltration, mainly when the peritoneum and/or the abdominal muscles are involved. This concept supports the cellular implantation theory. Regarding the latter, proper surgical techniques should be employed to reduce the risk of endometrial cellular spread. These techniques include (1) isolated individual gauzes for endometriosis lesions, (2) careful irrigation, (3) hysterotomy suture ruling out the endometrium and (4) usage of different needles to repair abdominal wall.

Conclusion

In conclusion, according to the literature it is recommended to consider AWE among our clinical differential diagnosis for cases presenting with classical symptoms such as cyclic abdominal pain, patients with history of endometriosis and/or in patients with history of uterine surgery. However, the absence of any of the above-mentioned variables does not exclude the diagnosis of AWE. The abdominal US is considered the first step in management, however; for masses that

are higher than 4 cm, MRI seems to be more precise in comparison to Ultrasound and CT. Surgical intervention with free margins is considered the best treatment in localized masses. The risk factors for AWE recurrence are still unknown, nevertheless; to implement preventive measures during uterine surgery, mainly during C-sections, may help to decrease the recurrence rate of AWE.

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