E-ISSN: 2708-1508
P-ISSN: 2708-1494
IJCRS 2024; 6(1): 30-34
www.casereportsofsurgery.com
Received: 21-10-2023
Accepted: 30-12-2023

M Benkhaldoun
Resident in Plastic Surgery, Department of National Burn Center and Plastic and Reconstructive Surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

I Sahel
Resident in Obstetrics and Gynecology surgery, Department of Obstetrics and Gynecology, Abderrahim El Harouchi Hospital, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

H Benaguida
Obstetrics and Gynecology Surgeon, Department OF Obstetrics and Gynecology, Abderrahim El Harouchi Hospital, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

S Karti
Plastic Surgeon, Department of National Burn Center and Plastic and Reconstructive Surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

A El Youssfi
Plastic Surgeon, Department of National Burn Center and Plastic and Reconstructive surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

S Sabur
Plastic Surgeon, Department of National burn Center and Plastic and reconstructive surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

A El Harti
Plastic Surgeon, Department of National Burn Center and Plastic and Reconstructive Surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

M Diouri
Plastic Surgeon and Chief of the Department, Department of National Burn Center and Plastic and Reconstructive Surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

Corresponding Author:
M Benkhaldoun
Resident in Plastic Surgery, Department of National Burn Center and Plastic and Reconstructive Surgery, Ibn Rochd Casablanca University Hospital Faculty of Medicine and Pharmacy of Casablanca HASSAN II University, Morocco Casablanca

Parietal endometriosis on cesarean scar: Study of a case

M Benkhaldoun, I Sahel, H Benaguida, S Karti, A El Youssfi, S Sabur, A El Harti and M Diouri

DOI: https://doi.org/10.22271/27081494.2024.v6.i1a.97

Abstract
Objective: Parietal endometriosis is a rare pathology. It can occur on all scars, most often during surgical procedures with hysterotomy. It affects 0.03 to 0.4% of cesarean scars.
Patients and Method: we report the case of abdominal wall endometriosis treated in the plastic surgery department of the Ibn Rochd hospital center in Casablanca.
Results: The age of our patient is 32 years old. She has two previous cesarean sections with Pfannenstiel type laparotomies. The interval between the intervention and the appearance of symptoms is three years. She presented a clinical picture made up of pain punctuated by the menstrual cycle. The treatment was surgical type of excision. The lesion invades the rectus abdominis muscle. The size of the lesion is 3 cm. There were no complications or recurrence.
Discussion and Conclusion: Local endometrial cell transplantation is the most likely pathophysiological mechanism to explain parietal endometriosis. The typical clinical picture combines swelling and pain punctuated by the menstrual cycle, but it is not always complete. Medical imaging makes little contribution. Surgical treatment must be broad enough to avoid any recurrence. No means of prevention has proven its effectiveness.

Keywords: Parietal endometriosis, endometriosis, surgical treatment, cesarean section scar, endometrioma

Introduction
Endometriosis affects 8 to 15% of women in genital activity [1, 2]. It is defined by the existence of endometrial tissue outside the uterine cavity. The endopelvic form of this pathology is the most common. But it can affect almost all organs except the spleen. Among the most frequent extrapelvic locations we must mention: the lung, the gallbladder, the small intestine and the colon, the kidneys, the rectovaginal septum, and the abdominal wall (recipis abdominis sheath, inguinal hernias). and umbilicals). This pathology is also found on abdominopelvic scars: episiotomies, uterine surgery scars, cesarean section scars, the path of an amniocentesis needle [3, 4] and a trocar port [5, 6], more rarely on an appendectomy scar. Parietal endometriosis represents 1 to 2% of cases of extragenital endometriosis [7]. The incidence of parietal endometriosis after cesarean section varies according to studies from 0.03 to 0.4% [1, 7, 8]. It can more rarely appear without any surgical history [9]. The term parietal endometrioma is used to designate pelvic or extra-pelvic endometriosis in significant quantities and forming a mass.
We present a case of parietal endometriosis on cesarean section scar treated by the team of the plastic surgery department of the Ibn Rochd hospital center in Casablanca.

Patient and methodical
We report a case of parietal endometriosis. Pathological proof of the endometriotic lesion was made. For our patient, we noted her age, the existence of a history of cesarean section or pelvic surgery, the interval between the intervention and the first symptoms, the existence of a history of endometriosis, the location and the size of the lesion, type of symptoms, carrying out additional tests; a non-specific ultrasound showing an oval formation, with irregular contours, hypoechoic, heterogeneous, vascularized on color Doppler measuring 32.6mm*30*23mm (Fig4); completed by an objectified MRI; an oval tissue formation, well limited with irregular contours in heterogeneous isosignal T_1 and T_2 with zones in T_1 hypersignal after fat saturation, in peripheral hypersignal in diffusion without clear restriction of diffusion, enhanced heterogeneously and especially in the periphery after injection (Fig5); the type of treatment, the performance of a laparoscopy, the existence of pelvic endometriosis lesions and finally the presence or absence of a recurrence.

Results

Our patient with parietal endometriosis lesions on a scar was treated in our department. His age is 32 years old. She had no history of genito-pelvic endometriosis. On the other hand, she has a surgical history. These are two cesarean sections with Pfannenstiel type laparotomy.

The interval between the surgical procedure and the appearance of the first symptoms is three years. Our patient presented a mass next to the scar (Fig 1) with cyclical pain associated with an increase in volume of the mass. Additional examinations were carried out using ultrasound and a scanner. Surgical treatment such as excision was carried out. The lesion infiltrates the aponeurosis and the rectus abdominis muscle (Fig 2). The lesion found is 3 cm (Fig3). A simple suture of the parietal aponeurosis was sufficient to close the wall. No complications or recurrences were noted.

Fig 1: Location and size of the tumor

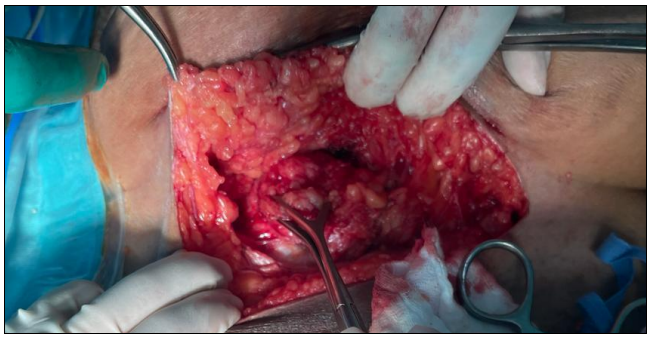

Fig 2: Appearance and depth of the tumor

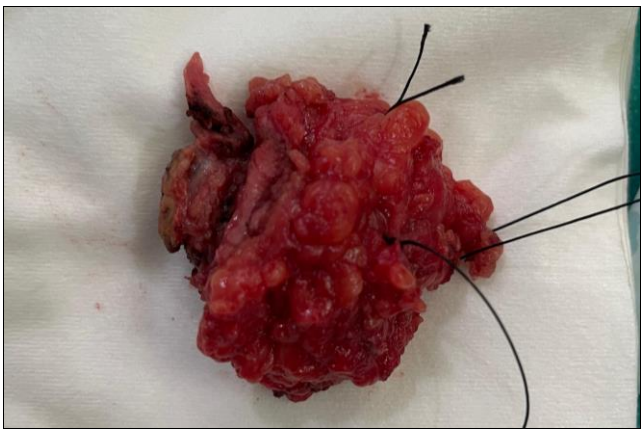

Fig 3: The tumor after total excision

Discussion

Endometriosis is defined by the location of endometrial tissue outside the uterine cavity. Pelvic injuries are the most common. Endometrioma defines a significant amount of ectopic endometrial tissue. Endometriomas Parietals are rare. Several locations are possible. The most common are abdominal scars. These scars are often those of cesarean sections. In our case, our patient had two cesarean sections before the first symptoms appeared. It seems that this is often a complication of Pfannestiel type laparotomies [10]. In our case, the laparotomy performed was of this type. Parietal endometrioma complicates 0.03 to 0.4% of cesarean sections [1, 7, 8]. Steck and Helwig [11] report 56 cases of parietal endometriosis on abdominal scar including 25 cesarean sections or 44.5%. In 1991 Rani [12] reports 27 cases of parietal endometriosis. In 1995 Koger [13] reported 24 cases of parietal endometriosis. The other series include a little less than ten patients [1-14-16]. The lesion may appear early after the surgical procedure or later. In the literature the interval between the intervention and the appearance of the first symptoms can range from six months to 37 years [17]. The gap observed for our patient is 3 years. Classically, affected patients are all of childbearing age, as in our case.

But cases of probable reactivation of lesions under hormone replacement therapy or in the presence of a secreting adrenal or ovarian tumor have been described [2-18]. Finally, endometriomas on cesarean section scars would be more frequent for cesarean sections carried out early, that is to say in the second trimester of pregnancy [12].

Pathophysiology

The pathophysiology of this type of lesion is poorly understood. To explain endometriosis lesions several theories have been proposed. The first theory was the reflux theory. Endometrial cells implanting ectopically arise from the reflux of menstrual blood through the tubes. For the second, the metaplastic theory, cells of the epithelium

Coelomics under the influence of various stimuli undergo metaplasia into endometrial cells. Finally, the metastatic theory would explain certain extra-genital lesions by venous or lymphatic dissemination. For parietal endometriomas, the most probable mechanism is the local transplantation of endometrial cells which will develop in a particular context. Endometrial cells have a high potential to develop in non-epithelialized areas [2]. Their development is also favored by secondary inflammation induced by immunological factors. The metaplastic theory has also been proposed to explain parietal endometriomas. Endometrioma arises from pluripotential primitive mesenchymal cells which undergo specific metaplastic differentiation [1]. Finally, some authors[19]think that the lesions could be explained by anatomical modifications. The uterus would adhere to the parietal peritoneum and with each episode of menstruation the blood flowing back through the tubes would follow the peritoneal folds and the adhesions to impregnate the scars.

Pathology

Macroscopic appearance

Parietal endometriosis classically presents in the form of a cystic tumor. These are small tumors whose diameter is on average 2 or 3 cm and can range from microscopic form at 12 cm in diameter [28]. On section, the lesion has a fibrous appearance but the center of the lesion may contain a necrotic area with the appearance of old blood.

Microscopic appearance

Microscopic examination reveals a columnar glandular epithelium of variable size, often cystic type associated with a cytogenic chorion and lymphocytic inflammation. The percentage of these two elements varies with changes in hormonal impregnation. In the proliferative phase, the stromal cell population is uniform, associated with proliferation of the glandular epithelium. During the secretory phase, at the level of the chorion two cell populations differentiate: large cells and small clear cells resembling respectively pre-decidual cells and endometrial granulocytes. This appearance is typical of endometriosis but can sometimes be confused with adenocarcinoma or adenocarcinoma metastasis.

Location

The lesion invades the underlying tissues next to the scars. But certain parietal lesions appear outside of any surgical context [9-20]. For some authors, the umbilicus is likened to a scar, which would explain the affinity of endometrial cells for this location [15]. The lesion often invades the abdominal muscles and their sheath. It can invade all parietal structures. The muscles most affected are the rectus abdominis muscle, the external oblique muscle and the transverse muscle. Inguinal lesions related to the round ligament are also described.

Clinical

Generally the tumor is small in volume, approximately 2 cm in diameter. Classically the lesion is described as a mass appearing next to a scar which increases in size and becomes painful cyclically, concomitantly with menstruation. The cyclical nature of the pain is an important element of orientation but it is far from being essential to suggest the diagnosis. Finally, when the lesion is very superficial it is possible to cyclically observe a change in color of the lesion which becomes bluish and can even fistulate into the skin in the form of a bloody discharge. Palpation of the lesion should make it possible to assess its size and location in depth, the lesion frequently invading the abdominal muscles and their sheath. The main differential diagnoses of a mass associated with an abdominal scar are: hernias, granulomas on threads, abscesses, hematomas, neuromas, epidermoid cysts and finally, more rarely, malignant tumors (sarcoma, metastases of carcinomas) [1, 21, 22]. In the case of a typical picture, the diagnosis can be easy to evoke. But, sometimes it is more difficult. In 37% of cases [1] the diagnosis is an anatomopathological discovery.

Additional tests

Radiologie

The images obtained by ultrasound or using scanner in scarred endometriosis are not very specific. These are either images having the appearance of a fluid collection which was the case in our patient (Fig 4) or tissue images without specific character [3-23]. This solid or cystic appearance could also change during the cycle depending on hormonal impregnation. The CT scan can be useful to characterize the invasion of the lesion in depth, MRI can also help with diagnosis. In T_1 sequence, the lesion will be in hypersignal if intralesional bleeding is present [24, 25]. These additional examinations can also help eliminate a differential diagnosis such as an inguinal hernia. There is also no correlation between the fact that the lesion is suspected or not and the request for examination. Faced with a typical clinical picture, apart from the diagnosis of deep localization of the lesion, additional examinations provide little information and have few indications.

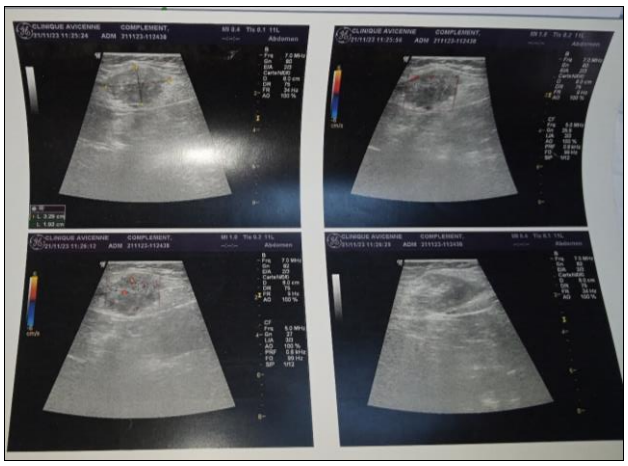

Fig 4: Ultrasound of the tumor

Fig 5: abdominopelvic MRI

Biology

Serum CA125 level may be increased in correlation with epithelial cell proliferation in endometriosis lesion [2].

Micro biopsy

According to some authors [21], an aspiration biopsy using a fine needle can make it possible to make the diagnosis or confirm it before considering any surgical treatment. Our experience leads us to prefer lumpectomy and single-stage treatment.

Treatment

Attempts at medical treatment by medical castration have been made but the standard treatment remains surgical

excision of the lesion, especially since rare cases of endometrioid carcinomas on scars have been described [26] and that recurrence under medical treatment is ineducable. In our case, our patient benefited from surgical treatment which was effective. Several studies [1-7] report a high rate of recidivism. The reported risks of recurrence, however, vary from one study to another, from 0 to 15% [1-16]. It therefore seems important to us to carry out a wide excision from the outset, even if it means using a parietal prosthesis to close the aponeurotic defect [7] which will also be done in the event of a repeat offense.

In our case, we did not need to use a prosthesis and we did not note any recurrence but the follow-up for our patient was limited to two months. Some authors [22] believe that it is necessary to prevent recurrences to have a healthy margin of 5 mm around the excision site and to avoid any breakage of the lesion during the procedure.

The main complication of treatment is the secondary appearance of a hematoma. Recurrences seem frequent. Parietal endometriosis is only associated in 24 to 26% of cases with pelvic lesions [8, 12, 27]. The benefit of systematic exploration by laparoscopy is limited by the prevalence of associated lesions and by the risks involved in carrying out an examination whose therapeutic contribution is not obvious. Some authors suggest as a pathophysiological mechanism the migration of endometrial cells through a defective cesarean section scar [7]. Experimental endometriosis can also be achieved by invaginating the endometrium in a cesarean scar [7-15]. It therefore seems important to us during the closure of a hysterotomy to ensure the quality of the closure and to put back in place any invagination of the endometrium, especially since the cesarean section is carried out early in the pregnancy. Some authors [16] carry out a pressurized physiological saline wash of the scar during cesarean sections. There is currently no means of prevention that has proven its effectiveness.

Conclusion

Endometriomas on cesarean section scars represent a significant portion of parietal endometriosis lesions. Very frequently the patient has no history of pelvic endometriosis. The symptoms can be typical with pain punctuated by the menstrual cycle but it is necessary to know how to make the diagnosis in the presence of a painful parietal tumor or not in the case of a history of gynecological surgery. Additional examinations are not very specific. They may possibly make it possible to locate the lesion in depth or eliminate a differential diagnosis. The excision of the lesions must be large enough to avoid any recurrence. As the associated genito-pelvic lesions are most of the time asymptomatic, it does not seem necessary to systematically perform an exploratory laparoscopy. Finally, no means of prevention has proven to be effective. However, given the pathophysiological hypotheses, it seems important to ensure the quality of hysterotomy closure during cesarean sections.

References

1. Patterson GK, Winburn GB. Abdominal wall endometriomas: report of eight cases. Am Surg. 1999;65(1):36-9.
2. Elabsi M, Lahlou MK, Rouas L, Essadel H, Benamer S, Mohammadine A, *et al*. Scarring endometriosis of the abdominal wall. Ann Chir. 2002;127(1):65-7.
3. Hughes ML, Bartholomew D, Paluzzi M. Abdominal wall endometriosis after amniocentesis. A report box. J Reprod Med. 1997;42(8):597-9.
4. Kaunitz A, Di Sant'Agnese PA. Needle tract endometriosis: an unusual complication of amniocentesis. Obstet Gynecol. 1979;54(6):753-5.
5. Healy JT, Wilkinson NW, Sawyer M. Abdominal wall endometrioma in a laparoscopic trocar tract: a case report. Am Surg. 1995;61(11):962-3.
6. Thylan S. Re: abdominal wall endometrioma in a laparoscopic trocar tract: a case report. Am Surg. 1996;62(7):617.
7. Lamblin G, Mathevet P, Buenerd A. Parietal endometriosis on abdominal scar, about three observations. J Gynecol Obstet Biol Reprod (Paris). 1999;28(3):271-4.
8. Chatterjee SK. Scar endometriosis: a clinicopathologic study of 17 cases. Obstet Gynecol. 1980;56(1):81-4.
9. Tomas E, Martin A, Garfia C, Sanchez Gomez F, Morillas JD, Castellano Tortajada G, *et al*. Abdominal wall endometriosis in absence of previous surgery. J Ultrasound Med. 1999;18(5):373-4.
10. Daye SS, Barone JE, Lincer RM, Blabey RC, Smego DR. Pfannenstiel syndrome. Am Surg. 1993;59(7):459-60.
11. Steck WD, Helwig EB. Cutaneous Endometriosis. JAMA. 1965;191(3):167-70.
12. Rani PR, Soundararaghavan S, Rajaram P. Endometriosis in abdominal scars-review of 27 cases. Int J Gynaecol Obstet. 1991;36(3):215-8.
13. Koger KE, Shatney CH, Hodge K, McClenathan JH. Surgical scar endometrioma. Surg Gynecol Obstet. 1993;177(3):243-6.
14. Seydel AS, Sickel JZ, Warner ED, Sax HC. Extrapelvic endometriosis: diagnosis and treatment. Am J Surg. 1996;171(3):239.
15. Caligaris P, Masselot R, Ducassou MJ, Le Treut Y, Bricot R. Endometriosis of the abdominal wall. J Gynecol Obstet Biol Reprod (Paris). 1981;10(4):465-71.
16. Wasfie T, Gomez E, Seon S, Zado B. Abdominal wall endometrioma after cesarean section: a preventable complication. Int Surg. 2002;87(3):175-7.
17. Kennedy SH, Brodribb J, Godfrey AM, Barlow DH. Preoperative treatment of an abdominal wall endometrioma with nafarelin acetate. Case report. Br J Obstet Gynaecol. 1988;95(5):521-3.
18. Choi SW, Lee HN, Kang SJ, Kim HO. A case of cutaneous endometriosis developed in postmenopausal woman receiving hormonal replacement. J Am Acad Dermatol. 1999;41(2 Pt 1):327-9.
19. Beizig S. Parietal endometriosis on cesarean section scar. J Chir (Paris). 1992;129(6-7):327-9.
20. Ideyi SC, Schein M, Niazi M, Gerst PH. Spontaneous endometriosis of the abdominal wall. Dig Surg. 2003;20(3):246-8.
21. Simsir A, Thorner K, Waisman J, Cangiarella J. Endometriosis in abdominal scars: a report of three cases diagnosed by fine-needle aspiration biopsy. Am Surg. 2001;67(10):984-6.
22. Matthes G, Zabel DD, Nastala CL, Shestak KC. Endometrioma of the abdominal wall following combined abdominoplasty and hysterectomy: case

report and review of the literature. Ann Plast Surg. 1998;40(6):672-5.
23. Amato M, Levitt R. Abdominal wall endometrioma: CT findings. J Comput Assist Tomogr. 1984;8(6):1213-4.
24. Yu CY, Perez-Reyes M, Brown JJ, Borrello JA. MR appearance of umbilical endometriosis. J Comput Assist Tomogr. 1994;18(2):269-71.
25. Turpin F, Daclin PY, Karam R, Meny R, Salanon AP, Paramelle PJ, *et al*. A case of localization of muscular endometriosis and Nuck's canal. J Radiol. 2001;82(8):933-5.
26. Kotwall CA, Kirkbride P, Zerafa AE, Murray D. Endometrial cancer and abdominal wound recurrence. Gynecol Oncol. 1994;53(3):357-60.
27. Wolf Y, Haddad R, Werbin N, Skornick Y, Kaplan O. Endometriosis in abdominal scars: a pitfall diagnosis. Am Surg. 1996;62(12):1042-4.
28. Bumpers HL, Butler KL, Best IM. Endometrioma of the abdominal wall. Am J Obstet Gynecol. 2002;187(6):1709-10.

How to Cite This Article
Benkhaldoun M, Sahel I, Benaguida H, Karti S, Youssfi AE, Sabur S, *et al*. Parietal endometriosis on cesarean scar: Study of a case. International Journal of Case Reports in Surgery. 2024;6(1):30-34.