

## Uterine rupture in a non-pregnant woman after multiple cesarean sections: A case report

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### Abstract

Long-term complications after cesarean section like abnormal uterine bleeding, dysmenorrhea or chronic pelvic pain are often due to dehiscent uterine scars. Here we present a case of a non-pregnant women with vaginal bleeding due to a ruptured hematoma in the cesarean section scar nine months after cesarean section.

### Keywords

Uterine rupture; Niche; Cesarean section.

### Abbreviations

CS: Cesarean Section; MRI: Magnetic Resonance Imaging; MPA: Medroxyprogesterone Acetate.

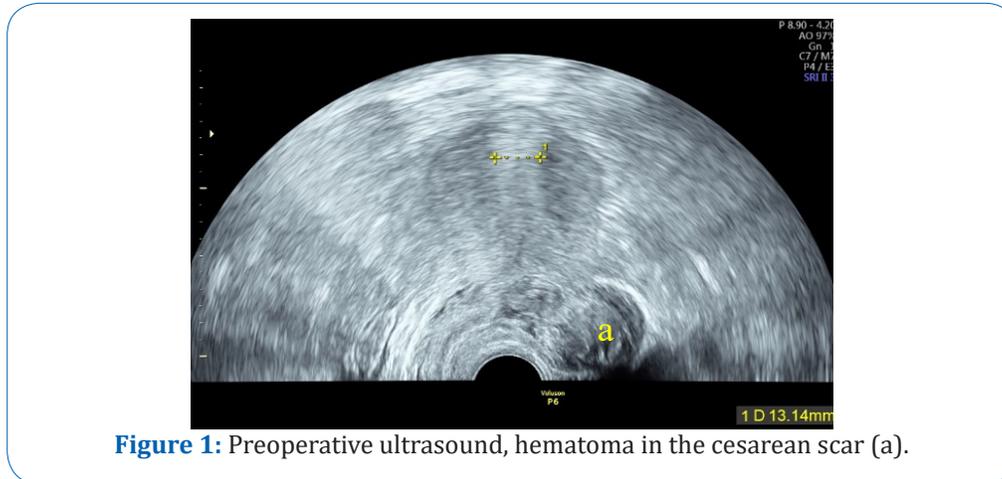
### Introduction

Long-term complications after cesarean section like abnormal uterine bleeding, dysmenorrhea or chronic pelvic pain are often due to dehiscent uterine scars. A so-called niche can be detected by transvaginal ultrasound or gel instillation sonohysterography and is defined as a triangular anechoic filling defect, more precisely an opening in the myometrium in the lower uterine segment, at the site of the cesarean scar [1,2]. Here we present the case of a non-pregnant women with vaginal bleeding due to a ruptured hematoma in the cesarean section scar.

### Case Report

A 27-year-old non-pregnant woman with severe lower abdominal pain, dysuria and vaginal bleeding and three Cesarean Sections (CS) in her medical history presented in our emergency department. After the last CS nine months ago, in May 2021, early complications occurred, namely endometritis and a pulmonary embolism. Due to these events the patient was advised to take apixaban for one year and

Medroxyprogesterone Acetate (MPA) injections every three months. Therapy with MPA injections was terminated prematurely. The patient initially presented with the symptoms described above and a 4 x 4 cm hematoma in the cesarean scar detected via transvaginal ultrasound (Figure 1) Based on the improvement of her symptoms, conservative therapy with dydrogesterone was recommended. The patient was also referred for an external Magnetic Resonance Imaging (MRI) scan, which confirmed the dehiscence of the cesarean scar in the anterior uterine wall with a hematoma measuring 5.6 x 6.3 x 5.4 cm.



**Figure 1:** Preoperative ultrasound, hematoma in the cesarean scar (a).

At representation, the patient underwent immediate surgery due to acute abdomen. After opening the abdomen by Pfannenstiel incision, a partially ruptured hematoma of about 8 x 7 cm, originating from the uterine cavity, was found under the sectional scar between the urinary bladder and the isthmus of the uterus. Both ovaries and tubes were inconspicuous. About 200 ml blood was seen in the pouch of Douglas and additional blood emptied after incision of the bladder peritoneum. After aspiration of blood, a scar dehiscence of approximately 4 cm was seen and the isthmus of the uterus was expanded. The anterior wall of the isthmus was mobilized and the uterotomy was closed with single button sutures. No free intra-abdominal fluid was detected on postoperative sonography. On postoperative day 5, the patient could be discharged from the hospital with improved physical condition.

## Discussion

The case report shows that atypical uterine bleeding due to partially ruptured hematoma in the scar dehiscence can occur late after CS in non-pregnant women. As the number of CS is increasing worldwide [3], so is the concern about long-term complications after cesarean. One of these complications is the so-called “niche”. It is known, that the prevalence of abnormal uterine bleedings, such as postmenstrual spotting, is higher in patients with diagnosed scar defects than in women without [1,2]. As discussed in previous studies, the surgical technique used for uterine incision closures plays an important role in avoiding scar healing defects and related long-term complications. Turan et al. found that double-layer purse-string closure caused significantly fewer uterine niches than classical double-layer uterine closure [4]. Also, Elkhoully et al. reported significantly thicker residual myometrial thickness in the group with Turan technique or with a new approach using a double-layer step up–step down technique compared to the group with classical double-layer uterine closure [5]. However, even with new and improved suturing techniques, these types of complications continue to occur.

## Conclusion

Long-term complications, such as abnormal uterine bleeding after cesarean sections in non-pregnant women must be considered. Therefore, CS should be performed only when strictly indicated.

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