



Case report

Uterine necrosis simulating a textiloma: A case report

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ABSTRACT

Uterine necrosis is a rare condition, it is considered a life-threatening complication. A few cases of uterine necrosis are reported in the literature most of them complicating embolizations, occurring after postpartum hemorrhages or severe endometritis.

We describe a case of uterine necrosis occurring after a caesarean section, the results of the CT scan simulated a textiloma.

1. Introduction and importance

Uterine necrosis is a rare complication. A few cases of uterine necrosis have been described following embolization of the uterine arteries for postpartum hemorrhages or uterine fibroids, or following severe endometritis.

Given the rarity of this complication, there are few radiological descriptions, especially on computed tomography.

We report the case of a uterine necrosis following a caesarean delivery, the radiological appearance was typically simulating an intra-uterine textiloma. In our case infection was the main cause of the necrosis.

This work has been reported with respect to the SCARE 2020 criteria [2].

2. Case presentation

We report the case of a patient, aged 30, gravid 4, para 3, having three children delivered vaginally, with no particular pathological history, currently 8 months pregnant with inadequate prenatal follow up during pregnancy.

The blood pressure, the urine dipstick analysis and the temperature were normal. The pelvic examination found a fundal height of 28 cm and suggested a preterm labor with uterine contractions. The digital vaginal examination revealed a cervical dilatation of 1 cm, the membranes were intact; the presentation was transverse confirmed by the ultrasound exam with a fetal death *in utero*.

Caesarean section was performed for fetal death *in utero* in transverse

lie allowing the extraction of a macerated male dead foetus with a birth weight of 1300 g. Manual examination of the placenta and the uterus didn't find a retro-placental hematoma.

Prophylactic broad spectrum antibiotics were used to prevent uterine infection. The first day *post partum*, the patient presented a generalized mucocutaneous jaundice with tachycardia at 120 bpm, polypnea at 30 cpm and oliguria, with no fever; the physical examination found a swollen tender sore abdomen, and a delayed resumption of bowel activity.

No bleeding was noticed. The blood test results were as follows: the patient had a hemoglobin level of 4.4 mg/l, leukocytosis of 23,480 elements/mm³, a low prothrombin time: 39%, a high activated partial thromboplastin time of 51.3, hemolysis with a high lactate deshydrogenase level of 4554 IU/ml, a disturbance of renal parameters with urea level of 0.70 g/ml and a creatinine level of 16 mg/l, hepatic cytolysis with aspartate aminotransferase (AST) level of 269 which is 6 times the normal, a biological cholestasis, high bilirubin levels and a high C-reactive protein rate of 310. The patient was transferred to intensive care unit, received 4 units of PCV, 2 units of FFP, and 4 units of platelets.

Abdominal and pelvic ultrasound showed an enlarged heterogeneous uterus with no peritoneal effusion. An abdominopelvic computed tomography was performed without injection of contrast product because of acute kidneys failure, it showed the presence of a voluminous central pelvic spongiform mass, heterogeneous with the presence of gas formations, measuring 15.6 × 11.4 cm extended over 18 cm recalling the uterine shape and suggesting an intrauterine textiloma or ischemic origin, associated with a pneumoperitoneum, diffuse infiltration of

Abbreviations: CT scan, computerized tomography scan; FFP, fresh frozen plasma; MRI, magnetic resonance imaging; PCV, packed cell volume.

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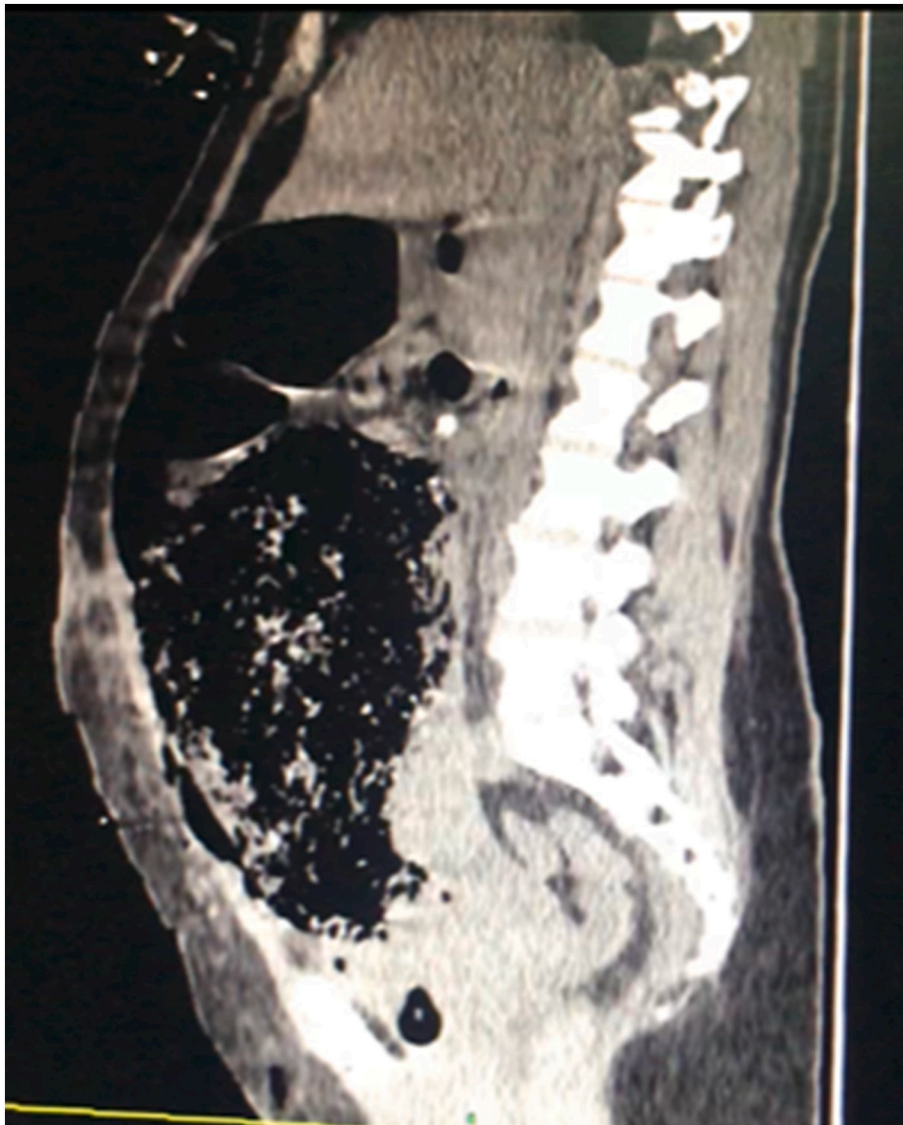


Fig. 1. Sagittal computed tomography images. Enlarged heterogeneous spongiform uterus with presence of multiple air locules, measuring 15.6 × 11.4 cm extended over 18 cm. We notice a difficulty to distinguish myometrium and endometrial cavity. And the presence anterior pneumoperitoneum and diffuse infiltration of mesenteric fat and peritoneal fluid of low abundance.

mesenteric fat and the presence of peritoneal fluid of low abundance (Fig. 1).

At the term of clinical and paraclinical examinations, the patient was diagnosed with peritonitis and severe sepsis complicating intra-uterine infected textiloma; laparotomy procedure was performed immediately after consent of the patient and her family.

During the procedure, we discovered an enlarged friable, infected and necrotic uterus, with purplish-green color, we noticed the presence of false membranes in the digestive loops and a low abundance fetid effusion (Fig. 2).

Total hysterectomy with bilateral salpingo-oophorectomy was performed with abundant peritoneal lavage and surgical drainage; multiple specimens were also taken during surgery for histological and bacteriological examination.

Results of bacteriological samples were sterile, and the anatomopathological analysis of the surgical specimens confirmed the diagnosis of uterine necrosis.

The patient died 2 days later due to septic shock with multiple organ failure.

3. Discussion

Uterine necrosis is a rare and serious complication. Cases of uterine

necrosis complicating caesarean section, embolization for postpartum hemorrhage or for a polymyomatous uterus or complicating severe endometritis have been described in the literature [1] (Table 1).

The clinical signs leading to suspect this complication are fever, abdominal pain, or metrorrhagia [3].

Pelvic ultrasound is the initial investigation which can reveal features of uterine necrosis. Uterine cavity is usually distended and shows multiple echogenic foci with dirty acoustic shadowing. Little or no vascularity is seen [4].

At this point, the diagnosis requires further exploration by CT scan or MRI if available which remains the investigation of choice. The CT scan is highly useful for the diagnosis as it demonstrates the presence of gas in the myometrium, the absence of enhancement of the myometrium after injection of contrast product associated with uterine enlargement, free fluid in the peritoneal space is usually seen [5,6].

The spongiform appearance with gas bubbles is a characteristic CT feature of textiloma, which often remains a delayed diagnosis because of its rarity [7]. Its clinical presentation is highly variable, ranging from a radiological discovery, days or weeks after postoperative abdominal pain to serious postoperative complications that could lead to death [8].

Besides a typical spongiform appearance with the presence of gas bubbles at CT scan [9], we notice also a low density mass with thin enhancing capsule, and calcifications may be seen deposited along with



(a)



(b)

Fig. 2. A macroscopic view of hysterectomy specimen with bilateral adnexa (a).
Sagittal section of the hysterectomy specimen (b).
Enlarged friable sphaelous uterus, with purplish-green color, infected and necrotic.

Table 1
Cases of uterine necrosis.

Author and date	Journal	Cause of uterine necrosis
Melenhorst et al (2014)	Clinical Imaging	Unknown cause
Gupta et al (2017)	Current Medicine Research and Practice	Uterine artery embolization for post-partum hemorrhage
Benkirane et al (2017)	International Journal of Surgery Case Reports	Combination of uterine compression sutures and vascular ligation during a postpartum hemorrhage
Sanchez et al (2020)	Journal of Gynecology Obstetrics and Human Reproduction	Uterine artery embolization for post-partum hemorrhage
Poujade et al (2013)	European Journal of Obstetrics & Gynecology and Reproductive Biology	Pelvic arterial embolization for post-partum hemorrhage
Eboué et al (2007)	Journal of Gynecology Obstetrics and Human Reproduction	Uterine artery embolization for post-partum hemorrhage
Indiran et al (2016)	Indian Journal of Medical Specialities	B-Lynch and Hayman suturing for postpartum hemorrhage

the network architecture of a surgical sponge [10].

Since uterine necrosis is described as a life-threatening complication, hysterectomy associated with broad-spectrum antibiotic therapy is suggested for its management [11,12]. In our case, the unnoticed intrauterine necrosis was the cause of death. The bacteriological specimen taken through surgery were sterile, probably because of previous start of antibiotics.

4. Conclusion

Uterine necrosis is a rare complication that is life-threatening.

In our case the infection was responsible for the sepsis and the uterus necrosis, leading to hysterectomy. The diagnosis was discovered intraoperatively, as the CT scan was describing typically a textiloma, with the patient having clinical biological and radiological signs of secondary sepsis.

Given the rarity of the cases described in the literature, there are no specific radiological characteristics.

Ethical approval

I declare on my honor that the ethical approval has been exempted by my establishment.

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Contributions of authors

Fouad Asmaa: Corresponding author writing the paper and operating surgeon.

Bouab Maryem: writing the paper.

Youssef Nabila: writing the paper.

Jalal Mohamed: study concept.

Lamrissi Amine: study concept.

Fichtali Karima: correction of the paper.

Bouhya Said: correction of the paper.

Guarantor

Fouad Asmaa.

Registration of research studies

Does not apply.

Consent

Written informed consent was obtained from husband and parents of our patient for publication of this case report and accompanying images.

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- Study conception and design: Fouad, Bouab.
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Declaration of competing interest

All authors state that there was no conflict of interest in writing or submitting the work for publication.

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