CASE REPORT

Case Report: An Unusual Presentation of an Infected Endometrioma

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Abstract

Background: There are some reports in literature about cases of endometrioma complicated by abscess, Shmidt et al. reported endometriotic cysts infected for the first time in 1981 but it was not until 1991 when Lipscomb et al. reported complicated endometrioma due to abscesses without any risk factor. Literature places this complication as the result of previous invasive procedures, use of intrauterine devices, hematogenous and lymphatic spread. Reports in which there is no recognized risk factor are isolated and exceptional; in these, the source of infection remains an enigma.

Objective: Present the diagnostic possibilities of ovarian abscess in an endometrioma.

Case report: A 36-year-old patient was evaluated in the emergency room at the Santa Rosa de Lima Hospital in Ensenada, Baja California, due to a 5-month history of chronic pelvic pain and non-quantified intermittent fever, with a previous diagnosis of urinary infection on treatment with a broad spectrum antibiotic without improvement. Transvaginal ultrasound showed a right ovary with an image compatible with endometrioma. Laparotomy was performed by dissection of the capsule and release of multiple tube-ovarian adhesions. The histopathological report confirmed that it was an endometriotic cyst (endometrioma) complicated by an exacerbated chronic inflammatory process.

Conclusion: It is important to study the risk factors in order to define the cause of an abscess in an endometrioma. Emphasis should be placed on a detailed clinical history and an adequate correlation with the clinical presentation. It is important not to forget that every woman with a history of advanced endometriosis is susceptible to complications and the most serious complications are known to be lethal.

Keywords: Endometrioma; Infected endometrioma; Ovarian abscess; Complicated endometriosis

Background

The presence of infection in endometriomas is a very unusual finding in clinical practice; due to this, the available information is scarce, with only a few cases reported worldwide. Generally, this complication is related to the antecedent of previous invasive procedures or use of intrauterine devices; however, there is also the possibility that the infection occurs spontaneously, which is even more unusual. In the international literature there have been reported as causal agents: Escherichia coli, Neisseria gonorrhoeae, Chlamydia trachomatis, Ureaplasma urealyticum, Gardnerella vaginalis, Streptococcus agalactiae, Mycoplasma hominis and genitalium and some anaerobes that can cause endometritis, oophoritis, salpingitis or abscesses [1-3].

The formation of de novo abscesses within an endometrioma is a very rare gynecological problem [4] and results in a surgical emergency that could be lethal [5].

The infected endometriotic cysts were initially described by Shmidt and his group. In 1981 Wetchiery et al. Proposed three primary causes for the origin of ovarian abscesses in endometriomas [5]: 1) inoculation of bacteria directly in the ovarian stroma due to surgical trauma [6], 2) haematogenous spread of bacteria [7]; and 3) lymphatic dissemination [8].

In 1991, Lipscomb and his co-authors reported a case of endometrioma complicated by an abscess without any known risk factor, possibly caused by hematogenous spread through the urinary tract [9]. To date, these types of complications are exceptional and the source of infection in isolated cases represents an enigma.

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Received: Dec 19, 2018; Accepted: Dec 21, 2018; Published: Dec 24, 2018
Objective

The objective of this study is to report a case of complicated endometrioma with an ovarian abscess as well as to expose and discuss the associated risk factors, in order to disseminate this rare alteration and establish an opportune diagnosis.

Clinical Case

A 36-year-old patient who presented chronic pelvic pain for the past five months, accompanied by decreased stools in the form of stinking, nausea, occasional dysuria of 2 weeks and intermittent fever managed with Acetaminophen 500 mg and Ibuprofen 400 mg orally every 8 hours. In a previous medical evaluation approximately 15 days ago she was diagnosed with urinary tract infection and a non-confirmed infectious gastroenteritis managed with ciprofloxacin 500 mg every 12 hours for 6 days. Later, for the persistence of symptomatology, she was diagnosed with acute pyelonephritis, the treatment consisted of injectable gentamicin solution of 160 mg/day intramuscularly for 5 days, without satisfactory results. She went to Santa Rosa de Lima Hospital for a new assessment.

Obstetric gynecological history: menarche at 9 years old; G1 C1 A0, caesarean section 9 years ago due to preeclampsia; irregular menstrual cycles, history of chronic dysmenorrhea, beginning of sexual activity at 18 years without prescription of contraceptive method, sexual partners: 2, current sexual activity denied, history of CIN 1 + HPV 3 years ago managed with cervical cryotherapy, with normal cervicovaginal cytology 1 year ago. Personal pathological history: high blood pressure diagnosed 8 years ago treated with Losartan 50 mg daily and Hydrochlorothiazide 25 mg daily; hemorrhoidectomy 5 years ago and breast implants 3 years ago; allergies denied.

On physical examination, she was afebrile with moderate pain on palpation in the left iliac fossa, which radiated to the lumbar region and extended to the ipsilateral posterior thigh, without signs of peritoneal irritation. In the initial physical evaluation, uterus was found in anteroversoflexion, central and posterior cervix; painful posterior fundus occupied by bulging of soft consistency in more than 50% of the left pelvis. The transvaginal ultrasound of the left ovary showed an image compatible with an endometrioma of 92 x 84 mm (Figure 1 and 2). Laboratory tests revealed leukocytosis of 14 x 10³/mm³ with neutrophilia (85%), hemoglobin of 10.6 g/dL, platelets 495,000/mm³, prothrombin partial time of 14 seconds and INR (international normalized ratio) 0.95. Anti-HIV, VDRL, anti-Mycoplasma and anti-Chlamydia trachomatis antibodies were negative, C-reactive protein was 205 mg/L and glucose was 110 mg/dl. The rest of blood chemistry and the general urine test remained within the normal parameters.

Surgical intervention was performed with a presumptive diagnosis of left endometrioma. During laparotomy, inflammation of the colonic wall of the descending and sigmoid colon was observed, without perforation or alteration in irrigation. Dissection of the capsule of the endometriotic cyst, measuring 11 x 10 cm, in the left ovary was performed, draining 500 cc of fetid liquid of dark brown color and releasing multiple tube-ovarian adhesions. Both uterine tubes were observed with signs suggestive of infection. The dissected capsule was sent to histopathology and the purulent fluid to perform aerobic bacterial cultures.

She was managed during her in-hospital stay with triple antibiotic scheme based on Metronidazole 500 mg every 8 hours + Clindamycin 600 mg every 8 hours and Ceftriaxone 1 g intravenously every 12 hours; Ketorolac 30 mg IV every 12 hours for 3 days.

The postoperative evolution was satisfactory and the histopathological report confirmed the diagnosis of endometrioma of the left ovary complicated with chronic inflammatory and acute processes, with formation of intramural abscesses and a wall covered with abundant fibrin and neutrophils, which caused a chronic purulent exacerbated oophoritis (Figure 3 and 4). There was no growth of aerobic organisms in the purulent fluid.
Discussion

Spontaneous ovarian abscess within an endometrioma is an exceptional complication. The literature points out different theories related to the origin of a spontaneous abscess in an endometrioma; for example, it may be due to an immune disorder in the endometrial glands and stroma [10].

Theoretically, the cystic wall of the endometrioma is weak, compared to the normal ovarian epithelium, so it is susceptible to bacterial invasion, even the collection of menstrual blood in some cystic space of the ovary represents an adequate culture medium for the development of pathogenic agents. Kubota and his group reported an incidence of tubo-ovarian abscesses of 2.3% and 0.2% in patients with and without endometrioma, respectively (p = 0.0001), which suggests a risk factor for the formation of an ovarian abscess [11]. Women with endometriosis in stage III-IV [12], nulliparous or who have not given birth to more than two children are more likely to suffer from tubo-ovarian abscesses than those who do not have endometriosis [13].

The patient in this case had no history of recent surgical intervention, pelvic inflammatory disease, intrauterine device, oocyte aspiration for IVF [14] or bacterial vaginitis [15]; therefore, these data demonstrate that an ovarian abscess can originate within an endometrioma without any recognized risk factor.

We could even consider the possibility of a sexually transmitted infection; however, the history of sexual inactivity, absence of vaginal discharge and no response to medical treatment led us to discard this hypothesis.

This patient had never been evaluated for infertility or endometriosis, so we do not know the time of evolution. It is difficult to determine the route of infection; however, the most accepted hypothesis indicates that the abscess could have originated in the endometrioma due to some ascending infection from the vaginal canal, due to Bacteroides (vaginal commensal), due to an alteration of balance in the vaginal flora, which increased the replicative and pathogenic potential of bacteria. In the same way, it could have been precipitated by the recent consumption of antibiotics [16].

Some reports of cases with infected ovarian endometriomas had a history of infections, such as the urinary tract [9] or gastrointestinal infection due to Salmonella [17], this case had a history of possible urinary infection, fever and stools decreased in consistency. Tests and vaginal cultures were negative, so the true cause of infection is unknown. However, the possible causes could have been the direct extension of infection from the inflamed colonic wall, spreading by blood and with an undetected bacteremia as proposed by Ghose et al. [17]. Other proposed theories suggest that endometriomas have an altered immunological microenvironment, which makes them more susceptible to infection [13]. The absence of bacterial growth in the purulent fluid could have been due to previous treatment with antibiotics.

The high index of suspicion, the quick obtaining of images by ultrasound and the opportune abscess drainage were the key for the treatment of the patient.

This case report is transcendental, because an endometrioma complicated by an abscess represents a true gynecological emergency. Ovarian abscesses without rupture are difficult to diagnose, because its clinical manifestation is very variable. However, in case of rupture, it can be deadly [6].

Surgery is the treatment of choice for endometriomas. The most common surgical technique is removal in a conservative manner, limited to the affected annex in order to minimize complications.

Conclusion

Defining the origin of an abscess within an endometrioma is important to study the risk factors. We must be strict in obtaining patient data, because their pathological history
related to the clinic of the current condition can guide the accurate and early diagnosis. To suspect, prevent and make the diagnosis in a timely manner is a priority to reduce the morbidity and mortality of this complication. Any woman with a history of advanced endometriosis can have complications (major surgery or infertility) which can be extremely severe.

Reference


