Ovarian abscess as a Complication of Assisted Reproduction Techniques : A case report

Moëz Ben Saad, Leila Attia, Riadh Ben Temime, Mariem Kilani, Tahar Makhlouf, Abdelatif Chachia, Abdelhamid Koubâa

Departement of Obstetrics & Gynaecology "A" Charles Nicolle Hospital. Tunis. Tunisia

M. Ben Saad, L. Attia, R. Ben Temime, M. Kilani, T. Makhlouf, A. Chachia, A. Koubâa

Abcès ovarien après ponction ovocytaire pour fécondation in vitro : A propos d'un cas

LA TUNISIE MEDICALE - 2010 ; Vol 88 (n°04) : 285 - 287

M. Ben Saad, L. Attia, R. Ben Temime, M. Kilani, T. Makhlouf, A. Chachia, A. Koubâa

Ovarian abscess as a complication of assisted reproduction techniques: A case report

LA TUNISIE MEDICALE - 2010 ; Vol 88 (n°04) : 285 - 287

RÉSUMÉ

Prérequis : Les techniques de procréation médicalement assistée ont connu un véritable essor ces dernières décennies. Cependant, des complications ont été enregistrées en particulier suite aux ponctions ovocytaires telles que l'hémorragie, la perforation ou l'infection pelvienne.

Objectif : Le but de ce travail est d'insister sur une complication rare des ponctions ovocytaire lors des tentatives de FIV, l'abcès ovarien, et de rappeler les moyens de prévention.

Observation : Nous rapportons l'observation d'une patiente de 38ans ayant des antécédents de myomectomie par laparotomie qui a présenté un syndrome douloureux et fébrile de la fosse iliaque gauche associé à des vomissements un mois après une tentative échouée de FIV. A l'admission, la température était à 38.9°C et la tension artérielle était de 90/60 mm Hg. L'examen physique a noté une sensibilité de la fosse iliaque gauche sans signes péritonéaux et sans masse palpée. Le toucher vaginal a trouvé une sensibilité du cul-de-sac gauche. Biologiquement, il a été relevé une hyperleucocytose à 17.500 éléments /mm3 avec 84.5% polynucléaires polymorphes, une CRP à 173 mg/dl. L'échographie a montré une masse latéro-utérine gauche; l'ovaire droit et l'utérus étaient de taille et d'échostructure normales. Il n'y avait pas d'épanchement dans le douglas. Une laparotomie a été pratiquée 24 heures plus tard. Elle a trouvé une péritonite localisée en rapport avec un abcès ovarien gauche avec multiples fausses membranes. Le traitement a été conservateur. Une antibiothérapie a été instaurée pendant 15 jours. L'évolution clinique était favorable.

Conclusion : La ponction ovocytaire peut être techniquement difficile, incomplète, et même impossible ce qui expose à un plus grand risque d'infection. Une évaluation échographique de l'accessibilité de l'ovaire est nécessaire avant de démarrer une tentative de FIV, particulièrement en cas de poids excessif ou d'antécédents de chirurgie pelvienne, d'endométriose, d'anomalies tubaires ou de fibromes. La prévention est de mise. Le traitement est basé sur la chirurgie et l'antibiothérapie.

Mots-clés

Assistance médicale à la procréation, ponction ovocytaire, abcès ovarien, péritonite, antibiotique.

SUMMARY

Background : AMP makes true great strides these last decades. Logically some complications were noticed even due to ovarian puncture such as hemorrhage, perforation or infection.

The aim of this report is to try, through a review of literature, to draw the attention of physicians to a rare entity, ovarian abscess after follicle aspiration for in-vitro fertilization, and to means of prevention.

Case report: We report a 38-year-old woman who was plainting from lower abdominal pain located in the left iliac fossa one month after failed IVF trial. The pain was associated with fever and vomiting. The patient's past medical history involves 2 myomectomys (2003-2007). On admission, her temperature was 38.9°C and her blood pressure was 90/60 mm Hg. Physical examination found nondistended abdomen. Tenderness to deep palpation in the left lower quadrant, without peritoneal signs, was detected. No masses were palpated. Mild tenderness in the left cul-de-sac was found. A full blood count showed a white cell count of 17,500 cells/mm3 with 84.5% polymorph nuclear cells, CRP 173 mg/dl. Pelvic ultrasound shows a left latero uterine mass; right ovary and the uterus are unremarkable; there was no free abdominal fluid. The laparotomy was performed 24 hours later and a left ovarian abscess was found. The treatment was conservative. Antibiotics were associated during 15 days. The clinical evolution was satisfying.

Conclusion: The ovarian puncture might be technically difficult, incomplete, and even impossible which exposes to a greater infection risk. An ultrasound evaluation of ovarian accessibility is necessary before starting an IVF attempt, especially in case of overweight or history of abdominal or pelvic surgery, endometriosis, tubal abnormalities or myomas. The treatment is based on surgery and antibiotics.

Key-words

Assisted reproduction techniques, ovarian puncture, peritonitis, antibiotic, ovarian abscess

خراج البويضة على إثر عملية بزل البويضة من أجرل إجراء التلقيح الأنبوب دراسة حول حالة واحدة

الباحثون : بن سعد . م - عطية . ل - بن تميم . ر - كيلاني . م - مخلوف . ط - شاشية . ع - قويع . ع.

الكلمات الأساسية : بزل بويضي - خراج بويضي - آلتهاب الصفاق - مضادات حيوية.

Assisted reproduction techniques make true great strides these last decades. These techniques are not stripped of complications. The complications due to ovarian punctures are fortunately rather rare (0, 7 to 1, 7 %); they are of 3 types: hemorrhagic, related to intestinal perforation and infectious.
The abscess due to ovarian puncture is an uncommon surgical emergency that could be lethal and the treatment may lead unfortunately to an oophorectomy.
In order to draw the attention of physicians to this rare entity, we present a case of ovarian abscess resulting from follicle aspiration for in-vitro fertilization.
Furthermore, with correct preoperative diagnosis and prompt surgical intervention at early stage, the affected ovary may be salvageable.

CASE REPORT

Mrs. F A, 38 years old; 0 gravida 0 para; his past medical history involves 2 myomectomys in 2003 and 2007 by laparotomy. She was followed for primary sterility of tubal origin. She had 3 failed IVF trials (2004-2007-January 2008 1 month before admission). The onset of menarche was at the age of 12 years she had regular cycles.
She was admitted with complaints of lower abdominal pain located in the left iliac fossa associated with fever and vomiting during 48 hours before admission.On admission, her temperature was 38.9°C and her blood pressure was 90/60 mm Hg.Physical examination found a nondistended abdomen. Tenderness to deep palpation in the left lower quadrant, without peritoneal signs, was detected. No masses were palpated. Mild tenderness in the left cul-de-sac was found. Pelvic ultrasound shows a left latero uterine mass; right ovary and the uterus are unremarkable; there was no free abdominal fluid.
A full blood count showed a white cell count of 17,500 cells/mm3 with 84.5% polymorph nuclear cells, CRP 173 mg/dl. The hemoglobin value was 11, 6 g/dl and the hematocrit 38.9%. Serum electrolytes, urea, creatinine and liver function tests were within normal limits.
The laparotomy was performed 24 hours later. We found pelvic peritonitis in relation with left ovarian abscess and pelvic adhesions. During the operation, extensive adhesiolysis was carried out and the abscess was drained.
Antibiotics (Clavulanic Acid + cyclines) were associated during 15 days. The patient post operative course was uneventful.
The fever dropped 48 h after the operation, WBC were 6200 per mm3. An ultrasound performed one month later revealed no evidence of cysts in the left ovary.

DISCUSSION

Primary ovarian abscess is defined as primitive infection of the ovarian tissue. In fact we are most commonly faced to tuboovarian abscesses secondary to salpingitis.[1]
Cases of primary ovarian abscess are rather rare in literature [1].
The possible factors for the cause of ovarian abscess are: disruption of the ovarian capsule, giving bacteria access to the ovarian stroma, and haematogenous and lymphatic spread [2].
Nevertheless, the most common mechanism is considered to be alteration of the ovarian capsule at the time of ovulation, or by penetration during surgery or surgical procedures. The interval between capsule disruption and clinical presentation may vary, depending on the bacterial inoculum dose, type of bacterium, its virulence and whether the infection occurred secondary to a direct contamination at surgery, or spread through devitalized tissue [3].
This complication has been reported to occur after vaginal hysterectomy, ovarian cystectomy, Caesarean section, during pregnancy and with the use of an intrauterine device [1,4].
Furthermore, transvaginal or percutaneous needle aspiration of an endometrioma have been considered in the causation of this rare phenomenon [5,6].
Ultrasonically guided vaginal oocyte collection is a relatively atraumatic method with rare complications.
This technique has now become the method of choice in most IVF–embryo transfer programmes, because it results in excellent oocyte yields, with increased speed and excellent follicle, as well as major pelvic vessel visualization, thereby decreasing the probability of vessel puncture [7].
Nevertheless, despite the advantages, there are some inherent risks, such as injury to blood vessels and haemoperitoneum, trauma to pelvic organs, infection or exacerbation of pelvic inflammatory disease, rupture of endometriotic cystic masses, urinary tract infections and hyperstimulation [8,9,10,11].
Reports on the formation of an ovarian abscess after ovum retrieval for IVF are scant [6]. Moreover, the case reported by Padilla [6] occurred during ovum retrieval while an endometriotic cyst was punctured, thus making ours the first case of ovarian abscess to occur after follicle aspiration without any subtle pelvic pathology.
The infections occurring after puncture are due to:
- A vaginal infection by direct inoculation of a germ during the intervention, or by reactivation of a latent infection.
- Abscesses of the uterus or ovary
- An intra-peritoneal infection in case of intestinal perforation.
The most common germs identified are Streptococcus B, Gram +, Gram – and anaerobic ones [1].
The symptoms are often poor and not specific; therefore the diagnosis is difficult to establish [1].
Ovarian abscess after ovum retrieval may be a severe complication that requires accurate diagnosis and prompt intervention. Initial treatment is with intravenous antibiotics. Nevertheless, when no response to antibiotics occurs within 72 h, if the abscess ruptures, or if surrounding organs are affected by the inflamed mass, immediate laparoscopy or laparotomy with removal of the ovary is the main treatment (12). Ultrasonographically-guided evacuation has to be further evaluated. In fact, preventive treatment is of major importance.
In our case, we were only partially able to drain the abscess by laparoscopy, as severe pelvic adhesions secondary to the abscess formation prevented completion of the operation.

CONCLUSION

We conclude that although most complications of ultrasonographically guided ovum retrieval are mild, severe life threatening complications, e.g. ovarian abscess, may occasionally occur. These should be reported to draw attention to their occurrence, aiming at prevention.
These infections are completely avoidable by compliance with the strict rules of asepsis at the time of the intervention (disinfection, gloves and fields sterile, sterilized or single use material) and by the realization of bacteriological examinations before the puncture (search for germs in the vagina and on the cervix). Prophylactic oral broad-spectrum antibiotic therapy, when using the vaginal route of ovum aspiration, or when pelvic inflammatory disease or other intra-abdominal infection has occurred in the past, is recommended.

Références

1. E. Decroisette a,*, P. Raynal b, J.-P. Le Meaux b, J. Lepercq b, Y. Aubard. Primary ovarian abscess. Diagnosis and therapeutic approach Gynécologie Obstétrique & Fertilité 2006;34 :337–40
2. Wetchler, S.J. and Dunn, L.J. Ovarian abscess. Report of a case and review of the literature. Obstet. Gynecol. Surv., 1985;40 (476–85).
3. Monif, G.R.G. Rupture of tubo–ovarian abscess. In Monif, G.R.G.Infectious Diseases in Obstetrics and Gynecology : Philadelphia, Harper and Row, 1993 : 100–106.
4. Bracha, J., Lotan, M. and Zakut, H. Ovarian abscess following cesareansection. A case report and review of the literature. Clin. Exp. Obstet.Gynecol 1988; 15 :134-6.
5. A. VermaU, S. Mittal, S. Kumar .Primary ovarian abscess. International Journal of Gynecology & Obstetrics 2000; 68:263-4.
6. Padilla, S.L. Ovarian abscess following puncture of an endometrioma during ultrasound-guided oocyte retrieval. Hum. Reprod 1993; 8:1882–3
7. Wikland, M., Hamberger, L. and Enk, L.Technical and clinical aspectsof ultrasound-guided oocyte recovery. Hum. Reprod 1989; 4: 79–92.
8. Coroleu, B., Lopez-Mourelle, F., Hereter, L. et al. . Ureteral lesion secondary to vaginal ultrasound follicular puncture for oocyte recovery inin-vitro fertilization. Hum. Reprod 1997;12: 948–50.
9. Dicker, D., Ashkenazi, J., Feldberg, D. et al. Severe abdominal complications after transvaginal ultrasonographically guided retrieval of oocytes for in vitro fertilization and embryo transfer. Fertil. Steril. 1993; 59:1313–5.
10. Howe, R.S., Wheeler, C., Mastroianni, L. Jr et al. Pelvic infectionafter transvaginal ultrasound-guided ovum retrieval. Fertil. Steril. 1988; 49: 726–8.
11. Scoccia, B., Marcovici, I. and Brandt, T. Uterine abscess after ultrasound-guided ovum retrieval in an in vitro fertilization–embryo transfer program: case report and review of the literature. J. Assist. Reprod. Genet. 1992; 9:285–9.
12. Stubblefield, P.G. Intraovarian abscess treated with laparoscopic aspiration and povidone–iodine lavage. J. Reprod. Med. 1991; 36:407–9.