

Ovarian Vein Thrombophlebitis: A Case Study Observed at the Hospital de la Paix in Ziguinchor (South West Senegal) and literature Review

Case Report

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Abstract

Ovarian vein thrombophlebitis a rare, occurring mostly during post-partum period and can potentially lead to a fatal issue.

The aim of this study was to describe a case of thrombophlebitis of the ovarian vein diagnosed in the context of an abdominal pain and fever in the post-partum. In addition we conducted a literature review on this subject which has a non-specific clinical signs.

Case report: A 27 old-year woman was admitted, at day 14 postpartum, in emergency unit because of a right lower quadrant abdominal pain associated with vomiting. She had 5 gravities and 3 deliveries. Fever at 38.5 °Celsius and abdominal tenderness were observed but without a palpable abdominal bulk during physical examination.

Laboratory exams revealed an elevation of white blood cells at 11800 per mm³ and an elevated C Reactive Protein (24 mg/L). Abdominal ultrasound found a thrombosis of the right ovarian vein, with a diameter of 19.5 mm. Abdominopelvic CT Scan confirmed the diagnosis of right ovarian vein thrombosis throughout its length up to the inferior vena cava. The patient was treated using anticoagulation and antibiotherapy, and the clinical evolution was good.

Conclusion: Ovarian vein thrombosis is uncommon, and the diagnosis is not easy. Clinical symptoms are not specific with abdominal pain and fever often during post-partum period. Diagnostic confirmation relies on imagery and anticoagulation is the main treatment.

Keywords: Ovarian Vein Thrombophlebitis (OVT); Post-partum; Magnetic Resonance Imaging (MRI); Ziguinchor

Introduction

Ovarian vein thrombophlebitis (OVT) is a rare condition which occurs often during post-partum period and could be potentially life-threatening [1]. This disease is not commonly described and its prevalence is apparently low. Very few cases have been reported across the African region and particularly in Senegal, while the vital prognostic can be affected.

The aim of this work was to report a case of OVT observed within

an abdominal pain syndrome during post-partum period at the Hospital de la Paix in Ziguinchor (South Senegal).

Case Report

A 27-year age woman who experienced 5 pregnancies which resulted in 3 deliveries and 2 abortions was admitted at the emergency service in the hospital de la Paix, on day 14 post-partum. She had a history of gestational high blood pressure. The main clinical sign was a low right quadrant abdominal pain associated with non-bilious vomiting.

During physical examination, we observed fever at 38 °Celsius, but with no deterioration of the general condition. Physical examination revealed an abdomen supple and sensitive at the right iliac fossa without a palpable bulky mass. At the gynecological examination, the uterus was in good involution, painless at mobilization, without a latero-uterine mass, and the cervix was posterior, dehiscent with presence of purulent lochia. An acute appendicitis, a salpingitis and a renal colic were strongly suspected.

Laboratory examinations revealed an elevation of white blood cells at 11800 per mm³ and an elevated C Reactive Protein (24 mg/L). Urine analysis was normal.

Abdominal and pelvis ultrasound revealed initially a thrombosis in the right ovarian vein measuring 19.5 mm of diameter. The scanner confirmed the thrombosis with 14 mm dilation of the ovarian vein over all its way down into the inferior vena cava (figure 1).

The patient was treated with an anticoagulant medication (Enoxaparin sodic 1 mg/kg/12 H during 6 days and Acenocoumarol 4 mg per day). In addition, she had a combined antibiotherapy using ceftriaxone 75 mg/kg per day and metronidazole 1500 mg/day in 3 times, during 10 days.

The issue was favourable with absence of fever after 3 days of antibiotherapy and anticoagulation confirmed by an effective INR from day 6 after treatment initiation. The patient was discharged at day 10 post-admission. Long-term evolution was good and anticoagulation was continued for 6 months.



Figure 1: Pelvic scanner showing thrombosis of the right ovarian artery.

Discussion

OVT is a rare condition, reported at very first time by Austin in 1956, which occurs mostly during post-partum period. The incidence of pelvic vein thrombosis is 1 per 2000 deliveries [2-5], with a higher rate after caesarean section (1 per 800) compared to the vaginal delivery (1 per 9000) [6]. OVT is more likely to occur in multiparous patients with an average parity of 2.5 and an average age of 25 years [2,7].

The exact pathogenesis is not clearly established but implies, like any thrombosis, the elements of the Virchow triad.

The condition of blood hypercoagulability results from an increase in the production of certain pro-coagulant factors present in all pregnancies, and up to six weeks postpartum (decrease of the protein S and the fibrinolysis activity, increase of factors VII, VIII, IX, X and fibrinogen) associated with the combined effects of sudden drop of venous blood flow and vascular endothelial lesions caused by delivery [7].

Venous blood stasis is the result of the dilation of the ovarian veins during pregnancy (up to three times the normal diameter, increasing from 9 to 26 mm) associated to a slowing of venous blood flow occurring in the immediate postpartum. Ovarian veins are long, unbranched and possess a number of valves that become incompetent due to dilatation. OVT occur most often during the postpartum period [8].

OVT concerns more frequently right ovarian vein. The distributions of localisations are: 80% in right, 16% in left and 4% bilateral, as reported in studies [6].

This can be explained by the uterine dextrorotatory compressing the right lumbar-ovarian ligament on the promontory; the existence of a retrograde venous blood flow in the left ovarian vein protects it from an ascending infection [9].

The clinical figure corresponds to a painful and febrile postpartum syndrome located in the iliac fossa or the right lumbar fossa in the first 2 to 7 days of the postpartum to which may be associated digestive and/or urinary signs that could lead to a misdiagnosis [1,10-12]. Appendicitis was the diagnosis initially mentioned for the patient.

Pulmonary embolism has also been described as the inaugural mode of disclosure of OVT in 13 to 33% of cases; they constitute a serious and life-threatening complication which could issue to death in 4 to 30% of cases [11].

Because of clinical signs are non-specific, diagnostic tests are essential for the confirmation. Laboratory tests found non-specific inflammatory syndrome with an increase of white blood cells and the C - reactive protein. Bacterial examinations (Urines, cervix, hemoculture) are often normal. For our patient no bacteria has been identified.

Imaging techniques made it possible to specify the diagnosis of OVT. Doppler ultrasound, CT scan and MRI are currently available techniques.

The Doppler ultrasound, a simple and accessible examination, can find a cylindrical and hypoechoic image located in retroperitoneal

position, near the venous cava, corresponding to a large ovarian vein, whereas in normal times, it is not visualized because it has a too small diameter [13,14]. This exam is completely safe, which is generally easy and fast to perform in routine practice. It is also useful for monitoring treatment progress.

Classical images of tomography scan have been well described by Dunning: appearance of large dilated ovarian vein whose walls are raised after intravenous injection of contrast medium, with a central lumen that appears hypodense [12].

Magnetic Resonance Imaging (MRI) gives results that are comparable to tomography scan, but in addition can precisely identify if thrombus is recent or ancient using ferromagnetic characteristics of the haemoglobin. It also gives information about blood flow (slowed or not) and particularly explores the inferior vena cava, especially to ensure its emptiness or to clarify the limits of a possible thrombus [14-17].

Twickler and al study is the only study that compares the 3 techniques in this situation [10,18]. He proposes MRI and CT scan as preferential tools in the evaluation of OVTs. Tomography scan had a better sensibility (100%) compared to MRI (92 %) and ultrasound (50 %) [10].

Diagnostic by Doppler ultrasound is more difficult and can be improved by the use of the endovaginal route and sensitization of the operator to the research of this pathology.

The limitation of these examinations lies in the interposition of the digestive loops for the ultrasound, the injection of contrast medium and the irradiation for the CT scan, the cost and the availability of the MRI in our regions.

A test for thrombophilia should be undertaken as it is reported that 50% of patient presenting an OVT has an abnormality of blood coagulation [11]. In our case we were not able to perform the test in our facility.

The treatment of OVT is not currently the subject of consensus.

Therapeutic abstention has been proposed in case of OVT discovered by chance [18].

The medical treatment combines antibiotic therapy (beta-lactam, aminoglycoside and imidazole derivative) and curative dose of heparin. This treatment is usually effective in 48 to 72 hours with the disappearance of pain and fever.

By analogy with the treatment of deep venous thrombosis, heparin is relayed by Vitamin K antagonist once clinical signs are reduced.

The duration of the treatment is empiric, 2 to 3 weeks of antibiotics therapy and 3 to 6 months of anticoagulation. No study has specified the optimal duration of the treatment.

For certain patients, the continuation or not of an anticoagulant treatment is guided by the disappearance or not of the thrombus on the imagery [18]. In our case, anticoagulation was continued for 6 months.

The issue is most often favorable (80% of cases) with disappearance of clinical signs after 48 hours of well-conducted treatment.

Surgical treatment, widely practiced before the 1970s, retains only a limited place.

Surgical treatment is indicated if there is a contraindication to anticoagulant therapy with thrombus extension to the vena cava or failure of medical treatment (confirmed pulmonary embolism) despite effective heparin therapy [19].

The alternative to surgery is the placement of a percutaneous cave - filter upstream of the superior pole of the thrombus associated with in-situ drug therapy. This makes it possible to control the immediate complications but not those at distance in addition to carrying an infectious risk [19]. The surgical solution is better than the cave - filter.

No study has evoked surgery compared to drug treatment.

Thus the absence of significant study does not refute the classic use of anticoagulants.

Conclusion

OVT is a rare condition whose diagnostic is not very evident in our settings because clinical symptoms are not specific. It is necessary to know to look for it before any painful abdominal and febrile syndrome occurring in a postpartum context in a young and multiparous woman.

Vascular Ultrasound with Doppler is a simple and accessible diagnostic tool. The evolution is most often favorable under adapted treatment; however complications such as pulmonary embolism can occur.

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