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Adrenal Vein Thrombosis during Pregnancy: About One Case

Sanae STIMOU, Hafsa TAHERI, Hanane SAADI, Ahmed MIMOUNI

Gynecology and Obstetrics Department at Mohammed VI University Hospital of Oujda, Morocco

Abstract: *Pregnancy constitutes a state of physiological hypercoagulability. Unilateral adrenal venous thrombosis in peripartum is very rare and is largely related to a compressive phenomenon by the gravid uterus but also favored by the state of hypercoagulability and venous stasis. We report the case of a 30 year old patient with no notable pathological history, pregnant with a 33 week amenorrhea pregnancy complicated by a right adrenal venous thrombosis. The incidence of venous thromboembolic disease increases with age. In women of childbearing age, it ranges from 0.40 to 0.70/1000 per year. During pregnancy, the risk is multiplied by 5, with the majority of deep vein thrombosis occurring during the 3rd trimester of pregnancy and in the postpartum period. Adrenal thrombosis is rare but should be considered in the presence of unexplained abdominal pain regardless of the term of the pregnancy. A thrombophilia test should be performed, but it is negative most of the time and it is a combination of personal risk factors. The treatment consists of curative anticoagulation to be continued for at least 3 months postpartum.*

Keywords: adrenal venous thrombosis, prepartum, pregnancy at risk.

Introduction:

Pregnancy constitutes a state of physiological hypercoagulability. Unilateral adrenal venous thrombosis in the peripartum period is very rare and is largely related to a compressive phenomenon caused by the gravid uterus, but is also favored by the hypercoagulable state and venous stasis (excess weight, varicose veins). The association with an underlying thrombophilia increases the thrombotic risk. We present here 1 case of adrenal venous thrombosis occurring in the third trimester of pregnancy.

Results:

Mrs. A., 30 years old, primigravida, with no particular history or family history, presented with a spontaneous singleton pregnancy of normal course; she was otherwise a nonsmoker with a normal body mass index (BMI) of 21 kg/m2. At 33 weeks of amenorrhea, the patient consulted in emergency following the sudden onset of pain with a dorsal origin radiating to the flank and the right hypochondrium. The patient was apyretic and had no functional digestive or urinary signs. The standard biological workup did not show any inflammatory syndrome or signs of renal or hepatic impairment. The cardiotocographic recording was unremarkable; on obstetrical ultrasound, the fetal vitality was excellent and the adnexa (placenta and amniotic fluid) appeared normal. The abdominal ultrasound was normal, and the thoracoabdominopelvic CT scan showed a thrombosis of the right adrenal vein. An anticoagulant treatment, heparin type, with curative aim was immediately instituted, in front of this acute hyperalgesic picture, the patient was put under morphinic, the pains were progressively relieved by simple analgesics, the patient was kept under surveillance. Biological analyses (ionogram and cortisol) did not show any signs of acute adrenal insufficiency. An induction at 39 weeks of amenorrhea was performed after stopping the anticoagulants 24 hours before, and the delivery was performed by vaginal delivery in an eutoic manner without incident. The newborn, a girl of 3090 g, Apgar 10/10. On day 1 postpartum, curative anticoagulation was started and continued for 3 months after delivery. After three months of effective anticoagulation, an injected abdominopelvic scan was performed; it showed perfect repermeabilization of the right adrenal vein, the adrenal gland appeared normal; the anticoagulant treatment was therefore interrupted. A thrombophilia workup was performed to look for protein C and S deficiency, mutations of coagulation factors II and V, lupus, and antiphospholipid antibody syndrome.

Discussion

The incidence of venous thromboembolic disease increases with age. In women of childbearing age, it ranges from 0.40 to 0.70/1000 per year. During pregnancy, the risk is multiplied by 5, with the majority of deep vein thrombosis occurring during the third trimester of pregnancy and in the post-partum period. It should be noted that a caesarean section multiplies the risk by 5. Age over 37 years and overweight (BMI > 29 kg/m²) are also associated with a higher risk [2].

Whatever the origin, a history of venous thromboembolic disease increases the risk of thrombosis during pregnancy by a factor of 4. However, the use of prophylaxis during pregnancy is far from risk-free, and caution should be exercised, especially as the incidence of fatal pulmonary embolism is very low. A prospective study evaluated the risk of recurrence during pregnancy in 125 women with a history of venous thromboembolic disease. Overall, the risk of antepartum recurrence was low (2.4%), not justifying the use of heparin [3]. The risk in thrombophilic women is probably higher, as shown by the retrospective study of 119 women with venous thromboembolic disease during pregnancy or postpartum. The frequency of thrombophilic abnormalities is higher in these 119 cases compared with 233 matched controls. Prospective studies of thrombophilic families confirm the high risk, even in

the absence of a history, associated with the homozygous Factor V mutation and the combined abnormalities [4]. Thus, in these exceptional cases, prophylaxis during the third trimester and postpartum can be considered, even in the absence of a history. Asymptomatic women with a single heterozygous thrombophilic defect are not suitable for preventive treatment during pregnancy, except in the case of antithrombin deficiency. Prophylaxis during the postpartum period is probably justified in this situation but not formally demonstrated, given the high frequency of these anomalies in the general population.

In women who have had a previous episode of thromboembolic disease, whether or not they have a thrombophilia-causing abnormality, postpartum prophylaxis with low-molecular-weight heparin is always warranted. Venous restraint throughout pregnancy and postpartum is also always warranted. Prophylaxis during pregnancy, however, is not codified. In the case of antithrombin deficiency, we recommend prophylaxis from the beginning of pregnancy because of the high risk of thrombosis. In the case of heterozygous protein C or protein S deficiency, or in carriers of the Leiden mutation of factor V or the A20210 allele of prothrombin, prophylaxis should be started systematically from the beginning of the third trimester at the latest, and for some patients earlier. The value of combining low-dose aspirin (100 mg/d) with low-molecular-weight heparin at a prophylactic dose should be evaluated in certain situations. Finally, in cases of proven antiphospholipid syndrome, effective anticoagulant treatment with low-molecular-weight heparin combined with 100 mg of aspirin is recommended. Because of the lack of precise coding of these treatments and the difficulty of assessing the risk of recurrence from one patient to another, the indications for prophylaxis should always be made in a specialized setting.

Conclusion

Venous thrombosis in peri-partum is frequent, adrenal thrombosis is rarer, but it should be considered in the presence of unexplained abdominal pain whatever the term of the pregnancy. A thrombophilia test should be performed, but it is negative most of the time and it is a combination of personal risk factors. Adrenal insufficiency must be detected. Treatment consists of curative anticoagulation to be continued for at least 3 months postpartum if the thrombophilia test is negative. During a next pregnancy, it is necessary to carry out a preventive anticoagulation until the post-partum period.

Declarations

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