RESEARCH ARTICLE

ATYPICAL PRESENTATION OF PREECLAMPSIA. ABOUT A CASE

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Abstract

3 to 5% of pregnancies are complicated by pre-eclampsia, which remains one of the main causes of fetal-maternal mortality and morbidity worldwide. The rate is higher in Morocco where the lack of prenatal consultation explains why pre-eclampsia is diagnosed at advanced stages. It is also responsible for 10 to 15% of maternal deaths in the Western world, and it remains the second leading cause of maternal death in France after the hemorrhage during delivery. Severe early pre-eclampsia (before 32 weeks of pregnancy) is associated with a risk of maternal mortality 20 times higher than after 37 weeks, and a higher risk of perinatal complications: prematurity, intrauterine growth retardation, premature detachment of the normoinsere placenta and perinatal mortality [3]. Its pathophysiology is complex and multifactorial. The identification of biochemical and biophysical markers that point to placental and endothelial dysfunction allows us to improve our practices through new screening tests (4), which make it possible to target at-risk pregnancies, and to initiate treatment early. Currently, the coexistence of arterial hypertension, proteinuria and edema is arbitrary and inconstant. Preeclampsia can occur without the clinical data mentioned above or appear before the second half of pregnancy. Its symptoms are variable and reflect multisystem dysfunction [3]. Its development is unpredictable and can be overwhelming. The objective of this article is to report a case of atypical preeclampsia (before week 20 of gestation) associated with a HELLP Syndrome then to analyze the clinical features of atypical forms, differential diagnosis and progress in biochemical markers and biophysics that can aid in diagnosis.

Introduction:

3 to 5% of pregnancies are complicated by pre-eclampsia, which remains one of the main causes of fetal-maternal mortality and morbidity worldwide. The rate is higher in Morocco where the lack of prenatal consultation explains why pre-eclampsia is diagnosed at advanced stages.

It is responsible for 10 to 15% of maternal deaths in the Western world, and it remains the second leading cause of maternal death in France after the hemorrhage during delivery. Severe early pre-eclampsia (before 32 weeks of pregnancy) is associated with a risk of maternal mortality 20 times higher than after 37 weeks, and a higher risk of perinatal complications: prematurity, intrauterine growth retardation, premature detachment of the normoinsere placenta and perinatal mortality [3]. Its pathophysiology is complex and multifactorial. The identification of biochemical and biophysical markers that point to placental and endothelial dysfunction allows us to improve our practices through new screening tests (4), which make it possible to target at-risk pregnancies, and to initiate treatment early. Currently, the coexistence of arterial hypertension, proteinuria and edema is arbitrary and inconstant. Preeclampsia can occur without the clinical data mentioned above or appear before the second half of pregnancy. Its symptoms are variable and reflect multisystem dysfunction [3]. Its development is unpredictable and can be overwhelming. The objective of this article is to report a case of atypical preeclampsia (before week 20 of gestation) associated with a HELLP Syndrome then to analyze the clinical features of atypical forms, differential diagnosis and progress in biochemical markers and biophysics that can aid in diagnosis.
biochemical and biophysical markers that point to placental and endothelial dysfunction allows us to improve our practices through new screening tests (4), which make it possible to target at-risk pregnancies, and to initiate treatment early preventively.

Currently, the coexistence of arterial hypertension, proteinuria and edema is arbitrary and inconsistent. Preeclampsia can start in the absence of the clinical data mentioned above or appear before the second half of pregnancy. Its symptoms are variable and reflect multisystem dysfunction [3]. Its development is unpredictable and can be overwhelming. The objective of this article is to report a case of atypical preeclampsia (before week 20 of gestation) associated with a HELLP Syndrome then to analyze the clinical features of atypical forms, differential diagnosis and progress in biochemical markers and biophysical that can aid in diagnosis.

**Observation:**

35-year-old patient, fifth procedure, having had 3 fetal deaths in utero at 5 months of pregnancy and 1 child living vaginally (11 years), with no particular pathological history, admitted for pre-eclampsia at 19 WA + 4 days, calculated from her last menstrual period (09/05/2020), with blood pressure of 170-110 mmHg, headache and sensation of epigastric bar. Moreover, on examination, a closed cervix, with no detectable bleeding. The fetal heart rate was 145 bpm and the biometrics were 19 weeks. An emergency assessment was performed, resulting in hemoglobin at 14 g / dL, 142,000 platelets per mm3, ASAT at 1550 IU / L and ALAT at 938 IU / L, LDH at 2251, 5.2 mg / L of creatinine, and a total bilirubin at 5.21, with labstix ++. The patient was put on antihypertensive and magnesium sulfate treatment. Transferred for monitoring to the intensive care unit. The fetus was male, weighing 290 grams. The evolution was marked by the appearance of thrombocytopenia at 61,000 / mm and improvement in the rest of the balance sheet at 48 hours: LDH at 490, ALAT at 256, ASAT at 55 and PT at 100%. After stabilization of her blood pressure under alpha aldopa and nicardipine in SAP and improvement of the thrombocytopenia to 119,000 after a course of corticosteroid therapy, the patient was transferred to the postpartum department and declared discharged on day 5 with a balanced blood pressure under alpha metildopa. Antinuclear, circulating anticoagulant and anticardiolipin antibodys were negative. The anti and pro-angiogenic factors could not be carried out for lack of means, the urine protein-creatinine ratio was increased to 600 mg / g.

**Discussion:**

According to the latest criteria established by the American colleague in gynecology and obstetrics, proteinurias no longer essential for the diagnosis of preeclampsia. It is currently defined by the appearance of arterial hypertension after 20 weeks of amenorrhea, associated with new proteinuria and / or single or multiple organ involvement [2]. It should be remembered that arterial hypertension is defined by blood pressure values ≥ 140/90 mmHg.

Although still debated, some classifications include uteroplacental insufficiency with intrauterine growth retardation (IUGR) in the definition of preeclampsia [2].

Indeed, the symptoms of preeclampsia can be heterogeneous. For example, hypertension and, or proteinuria, are absent in 10 to 15% of HELLP Syndrome and in 20 to 38% of eclampsia.

Faced with the non-specificity of the symptoms of preeclampsia, biochemical markers have been described to identify patients with typical manifestations.

Since the clinical criteria for defining preeclampsia (hypertension, proteinuria and edema) are arbitrary, Sibai and Stella proposed the term typical preeclampsia that encompasses different clinical entities: [4]

1. Pregnancy hypertension associated with one or more of the following criteria: severe arterial hypertension, microangiopathic hemolysis, thrombocytopenia less than 100,000, or hepatic cytolysis with ASAT greater than or equal to 70 IU / L.
2. Preeclampsia occurring before 20 weeks of amenorrhea. Described in connection with antiphospholipid antibody syndrome, hydatidiform moles and fetal hydrops.
3. Late postpartum preeclampsia, from 48 hours postpartum and up to 4 week thereafter.
4. Gestational proteinuria without arterial hypertension associated with only one or more of the following criteria: symptoms of preeclampsia, hemolysis, thrombocytopenia, elevated liver tests.
The management is identical to that of classic preeclampsia where the choice of therapy (antihypertensive, magnesium sulfate) and the decision to give birth is guided by the presence or absence of signs of severity [2].

When this syndrome appears before the 20th week, it is often related to hydatidiform moles, complete or partial, and triploidy.

The literature finds very rare cases of preeclampsia before 20 weeks of gestation affecting progressive pregnancies without molar degeneration of the placenta [2].

It has also been described for patients with antiphospholipid syndrome and other cases associated with HELLP Syndrome [3].

A risk factor also found was egg donation.

In the case of our patient, preeclampsia was diagnosed at 19SA + 4 days. No molar degeneration has been documented.

In order to rule out the differential diagnoses that could mimic severe preeclampsia, an antiphospholipid assessment was requested in front of a history of unexplained fetal death in utero, which came back negative. The autoimmune workup also ruled out systemic lupus erythematosus. The clinical and laboratory signs were also not in favor of a thrombotic thrombocytopenic purpura or a hemolytic uremic syndrome (unaltered kidney function).

Once the diagnosis of atypical preeclampsia has been made, the pregnancy should be terminated quickly, after the patient has stabilized. Magnesium sulfate is used to prevent or control a seizure. As was the case with our patient, the clinical and biological parameters improved markedly as soon as the placenta was removed, on the 3rd day of postpartum.

We are currently trying to implement new early detection strategies to better target patients at risk. Uterine Artery Doppler (DAU) is a non-invasive test that is the recording of blood flow in the uterine arteries. In patients who will develop preeclampsia, several studies have shown an increase in the resistance index and the pulsatility index as well as the presence of a proto-diastolic notch in the 2nd trimester of pregnancy.

Some authors have more recently been interested in DAU in the 1st trimester, because the aim is to institute a preventive treatment with aspirin in high-risk patients, which is more likely to be effective if it is started as soon as possible, the end of the 1st trimester.

Thus, according to the study of a cohort of 6015 patients at undetermined risk of preeclampsia (61), the mean PI adjusted for gestational age, ethnicity and BMI, has a detection rate of 41.1% for preeclampsia and 81.8% for early preeclampsia, for a false positive rate of 10%. The predictive validity of clinical markers alone is less than that of the combination of clinical markers and velocimetric indices of SAD.

As for the use of maternal biochemical markers as a screening tool for preeclampsia, we cite PAPP-A (Pregnancy-associated plasma protein-A) which plays an important role in the local proliferative response, in particular trophoblast invasion. [8]. A decreased level of PAPP-A in the 1st trimester is associated with an increased risk of preeclampsia. However, the proportion of subjects with preeclampsia who have a PAPP-A concentration below the 5th percentile is only 8 to 23% [9], therefore insufficient for PAPP-A to be used in isolation for screening.

Recently, several models of combined screening, combining clinical, biochemical and biophysical (DAU) data, have been reported. Thus, for the screening of early preeclampsia from the 1st trimester of pregnancy, the following have been combined:

1. Mean PI of uterine arteries, serum PIGF level, mean arterial pressure, BMI, ethnicity, family history of preeclampsia, parity and personal history of preeclampsia [5].
2. Serum level of PAPP-A, PP-13 and mean IP of uterine arteries. [7]
3. Lowest PI of uterine arteries, ethnicity, chronic hypertension, parity and mode of conception and mean arterial pressure. [11]
4. Mean PI of uterine arteries, serum PAPP-A level, parity and history of preeclampsia [9]
However, these different models have not been compared with each other, and the procedure for choosing the best predictive model in the different studies is not always explicit.

We also cite in the context of the evaluation of angiogenic markers, calculation of the fms-liketirosina cinasa-1/placental growth factor index, has also been described useful in the diagnosis of precocious preeclampsia and Hellp Syndrome, with a sensitivity of 92%.[4]

**Conclusion:**

Preeclampsia is a syndrome grouping together a set of non-specific signs and symptoms and multiple possible etiologies.

Despite refinement of diagnostic tools offered to clinicians, there are still clinical presentations that fall outside the scope of definitions.

Any good clinician must know the atypical forms in order to initiate correct management, without delay, and thus avoid increasing maternal and perinatal morbidity and mortality. There are currently biophysical and biochemical markers, under evaluation, with the aim of providing the clinician with an effective tool to identify patients with atypical presentations at an early stage.

**Declaration of interest**
The authors declare that they have no conflict of interest.

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