Ultrasound Contribution in Antenatal Diagnosis of Fetal Malformations: About Two Cases

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ABSTRACT

The advances in ultrasound screening and laboratory techniques are now leading to the discovery of an increasing number of abnormalities during the first and second trimesters of pregnancy. This earlier diagnosis allows, in addition to an earlier interruption of pregnancy in the case of fetal malformation incompatible with life, a better organization of perinatal care. We report two cases of fetal malformation diagnosed during ultrasound surveillance collected at the Souissi maternity clinic in Rabat.

Keywords: Foetal malformation, Neo-native Diagnosis

1. INTRODUCTION

The fetal malformations are extremely varied, of different nature and multiple expression. The majority of these malformations are detectable during the second trimester of pregnancy, some as early as the first trimester, while others, late expression during the third trimester. The only way to detect more is to look for them systematically in all pregnant women by ultrasound, which is unfeasible in countries where the medical infrastructure is insufficient, and the socio-economic level is low. We report two cases of fetal malformations detected by ultrasound during the second trimester.

The aim of our work is to insist on the systematic integration of ultrasound in the monitoring of pregnancy in our context in order to early discover the fetal malformations and consequently to make an appropriate therapeutic decision.

2. OBSERVATIONS

Case One:
Mrs. XX, 22 years old, second gesture, primiparous, without any significant pathological antecedents, Caesarized two years ago for acute fetal suffering. Echocardiography was performed in 16 weeks of pregnancy, she demonstrated a progressive monofetal pregnancy of 16 week with an anechoic occipital image, with partitions without cranial structure abnormalities or spinal column evoking an aspect of an occipital hygroma. A second ultrasound was requested from 23SA in well-trained hands to confirm and clarify the anomaly; it also objectified an occipital formation communicating with the cranial chamber containing partitions and a bud resembling the cerebral parenchyma evoking...
an occipital meningoencephalocele. The rest of the structures is without anomaly. The patient is lost sight of, until the day of delivery. The delivery was carried out by c-section for the presentation of front which allowed the cephalic extraction of a male newborn Apgar 10/10 birth weight 3500g with the presence of mass at the level of the occipital region, rounded, renitente, measuring 15cm / 10cm. The baby died three days later from respiratory distress.

**Figure 1: First ultrasound shows an occipital hygroma aspect or neck with normal skull structure**

**Case two:**
Mrs. X, 22 years old, primitive, primiparous, without any significant pathological antecedents, pregnant for 6 months. In pregnancy monitoring, an ultrasound was requested, it was objectified: a monofetal developmental pregnancy estimated at 25SA according to the biometry, presence of a myelomeningocele with sacral posterior rachischisis (myelomeningocele measuring 27.1mm) with a distorted aspect of the spine, hydrocephalus with parenchymatous index at 6 mm and a clubfoot, absence of other clearly visible morphological abnormalities. A second ultrasound of control has objectified a non-progressive monofetal pregnancy with anamnios. A pregnancy interruption was proposed: labor was initiated, the patient gave birth to a fetus without a vital sign, not macerated, male, 850g, with hydrocephalus, Spina Bifida, feet bots.

**3. DISCUSSION**
The sensitivity of screening for fetal malformations by ultrasound depends on several factors, some of which are controllable: the individual acoustic characteristics of the patients’ tissues, the design, the technological quality of the equipment used and also certain characteristics of the operator (The ability to manipulate the equipment and the know-how for the interpretation of the images). A study conducted between 1990 and 1993 to evaluate the sensitivity of echographic screening of fetal malformations on 200,000 pregnant women showed that 61% of the 3700 malformed fetuses were discovered before birth (minor and major malformations), sensitivity thus reaches 74% of all malformations and 88% and 85% for central and urogenital malformations, but the sensitivity reported does not necessarily reflect its Real value, mostly due to methodological differences. Screening for an abnormality will be followed by a second more detailed ultrasound scan, in more trained hands, to confirm the anomaly which must be more precise because it is on the morphological ultrasound data that one will take a Therapeutic decision. This is the case of our first patients, where a second ultrasound was made which was more detailed, more precise and more conclusive than the first. Sometimes ultrasound screening does not make it possible to make an exact diagnosis of the malformation, it is the case published in 1997 by KOUAM on antenatal diagnosis of renal cyst, it was shown that antenatal ultrasound examination has led to the diagnosis of abdominal mass, but the renal cyst will only be diagnosed on anatomical-pathological examination. There is often a difficulty differentiating abdominal mass and renal mass, so in renal malformations, it is always necessary to look for the
oligoamnios which constitutes when it occurs before the third trimester of the pregnancy one. An important pathological sign which should lead to the discovery of a renal disease. In our observations, malformations diagnosed by ultrasound in the second trimester of pregnancy are found at birth. In pregnancy monitoring, at least three ultrasounds should be requested to detect abnormalities. In Belgium, social security authorizes the reimbursement of three ultrasounds between 11-12 weeks of amenorrhea, nuchal translucency (enlarged in case of tisomy21) is measured, gestational age, fetal examination. In particular skull, vertebral column, thoracic and abdominal walls, the four limbs and look for the four cavities of the heart. Between 20-22SA, a very detailed examination of the fetus for malformations, examination of the fetal appendages, biometrics to assess fetal growth is carried out. Between 30-32SA, a biometric evaluation is carried out to evaluate the fetal growth and to look for abnormalities that have a later expression (digestive system .). The majority of malformations are detected during the second trimester. The purpose of screening is to modify the natural course of the malformation by interrupting the pregnancy in the event of a malformation that is incompatible with life, thereby improving the number of children malformed at birth. Decreased significantly where systematic screening is performed, however, in our context where the socio-economic level is diminished, and the medical infrastructure is insufficient, the systematization of ultrasound in the monitoring of pregnancy is still insufficient. This explains why a large number of fetal malformations remain unknown until they enter work and the diagnosis is made only after birth.

Once the anomaly is detected, it is necessary to inform the couple of the existence of a fetal malformation, to explain the lethal or non-lethal nature of the malformation and to associate the couple in the therapeutic decision by informing them of the need to extract A product of conception with a malformation that is incompatible with life, which makes it possible to release the woman immediately from a pathological pregnancy.

4. CONCLUSION

Ultrasound remains the first fundamental examination in the prenatal diagnosis of fetal malformations. It should be integrated systematically into the surveillance of pregnancy especially in developing countries in order to limit the number of fetal malformations detected at birth and therefore make a therapeutic decision.

REFERENCES