CASE REPORT

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THIRD TRIMESTER PRENATAL DIAGNOSIS OF CLASSIC CONGENITAL MESOBLASTIC NEPHROMA: A CASE STUDY

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ABSTRACT

INTRODUCTION: Congenital mesoblastic nephroma is the main cause of kidney tumors in the first year of life, often associated with polyhydramnios, preterm birth, and neonatal hypertension.

CASE REPORT: In this paper, we report a case of volumetric enlargement of the left kidney with gastric bubble compression in a fetus at 38 weeks and 5 days, suggestive of renal tumor. With the interruption of pregnancy, surgical treatment was performed and a classic variant congenital mesoblastic nephroma was confirmed.

DISCUSSION: Despite the difficulty in diagnosis, congenital mesoblastic nephroma can be suspected even in the prenatal period through the identification of a solid, unilateral, encapsulated mass, with homogeneous echogenicity and located in the renal fossa on ultrasound. Usually, the treatment of this type of tumor is surgical and the prognosis is usually good, especially if the tumor is of the classic histological subtype.

CONCLUSION: A rare disease that can lead to adverse pregnancy outcomes during pregnancy, it is concluded that congenital mesoblastic nephroma, despite ultrasound suspicion during the prenatal period, is difficult to diagnose and is only confirmed in the postnatal period, with surgery treatment and anatomopathological study.

KEYWORDS: MESOBLASTIC NEPHROMA, KIDNEY, RENAL NEOPLASMS, PRENATAL DIAGNOSIS, PREMATURITY

INTRODUCTION

Differentiated from Wilms tumor (WT) in 1967 and known as Bolande's tumor [1], congenital mesoblastic nephroma (CMN), despite its low prevalence, is the most frequent renal tumor in newborns, representing 3-10% of all pediatric renal neoplasms [1-2]. Unlike TW that manifests in preschool children (1-4 years old), 90% of CMN cases are diagnosed within the first year of life, especially in children under six months of age [1-3] .

CMN predominantly affects males, and most cases are associated with polyhydramnios, premature birth and neonatal hypertension [2-4]. In addition, it has three histological subtypes: classic, cellular and mixed, being the cell with the worst prognosis given its capacity for recurrence and metastasis [2-4].

The identification of the tumor can be done through clinical evaluation, and the presence of an abdominal mass is evident, which can also be identified on prenatal ultrasound. In addition, it is common for pediatric patients to have hematuria, which may or may not be associated with a paraneoplastic syndrome such as hypertension or hypercalcemia[3].

Defined as a benign tumor, its prognosis is favorable, and expectant management and immediate postnatal excision of the tumor (nephrectomy or radical nephroureterectomy)[4-5] followed by adjuvant chemotherapy are indicated in the prenatal period if the pathological findings predict metastasis or recurrence [6].

Thus, the objective of this study is to report the prenatal diagnosis of the third trimester of congenital mesoblastic nephroma and thus disseminate information that may eventually help professionals in the differentiation of childhood renal neoplasms, since the differential diagnosis is essential to develop the most effective therapeutic approach.

CASE REPORT

A 36-year-old secundigested patient, with a history of previous cesarean delivery four years ago, was referred to the Hospital Estadual Da Mulher, Goiás, at 38 weeks and 2 days of gestation by ultrasound showing an enlargement of the fetal left kidney, compressing a gastric bubble suggestive of a Wilms tumor.

The ultrasound examination performed at the unit revealed a heterogeneous mass in the left renal chamber, with a diameter of 8.1 cm, adequate fetal weight for gestational age, normal amniotic fluid and Doppler study with normal uteroplacental and fetoplacental flows (Figures 1-2).

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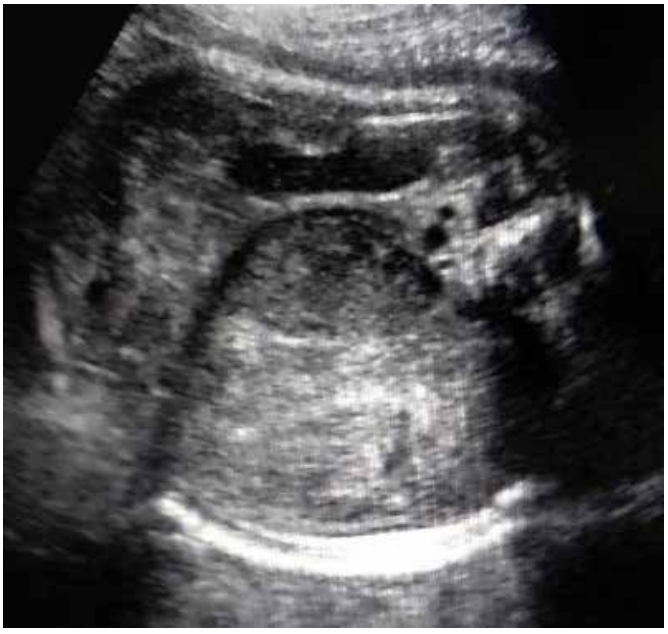

Figure 1. Ultrasonographic image of a unilateral solid mass in the renal sinus.

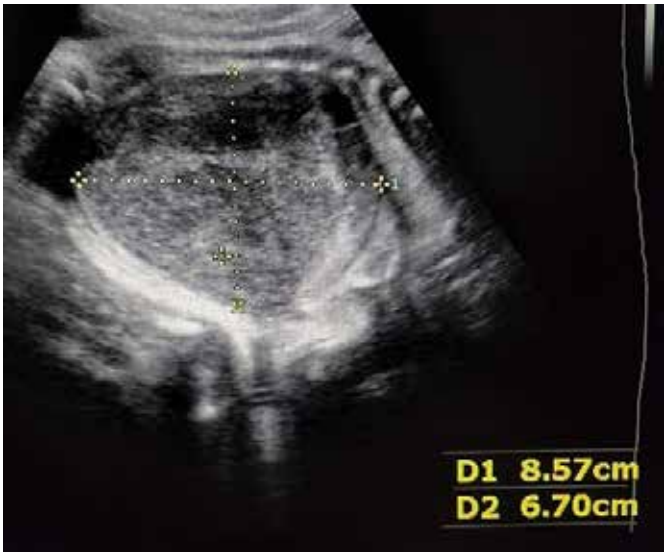

Figure 2. Ultrasonographic image of a unilateral solid mass in the renal sinus.

Taking into account the term, it was then decided to terminate the pregnancy, followed by intervention in the newborn by the pediatric surgery team. Thus, a left supraumbilical transverse laparotomy was performed, when a large tumor of the left kidney with a pseudocapsule was observed, without adrenal invasion, and probable invasion of the capsule and perirenal fat. Complete resection of the tumor was performed, with ligatures of the hilum and ureter (Figure 3).

Subsequently, the anatomopathological report showed a histopathological picture compatible with congenital mesoblastic nephroma, a classic variant.

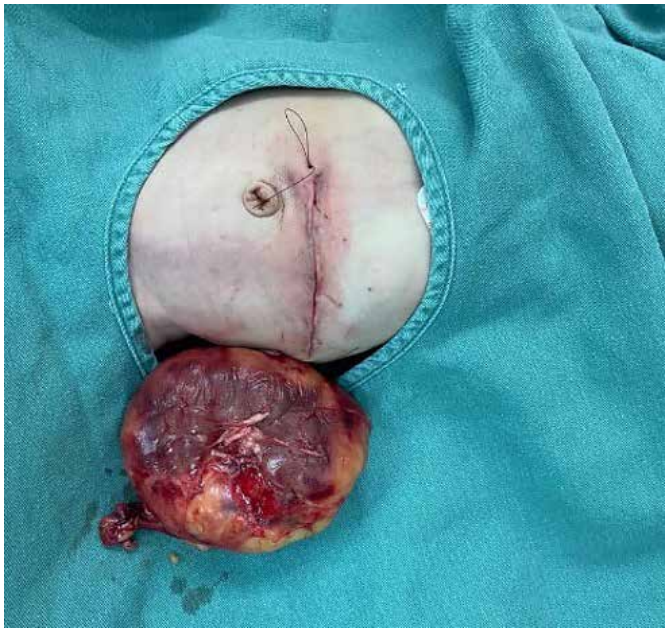

Figura 3. Renal tumor and kidney removed

DISCUSSION

It is known that 90% of pediatric abdominal masses are located in the retroperitoneal region and that in one in two cases they are located in the urinary system [8]. While Wilms' tumor is more frequent in the age group between 1-4 years, congenital mesoblastic nephroma is responsible for 90% of cases within the first year of life [5].

In most cases, the diagnostic suspicion can be made even in the prenatal period, since the sensitivity of ultrasound to detect urinary tract anomalies increases with gestational age, reaching 80% at 28 weeks [7].

The ultrasound finding is a solid, unilateral, encapsulated mass, with homogeneous echogenicity and located in the renal fossa. However, the diagnosis can only be established by anatomopathological study and age of onset offers important data to establish the diagnostic suspicion [8].

Usually, the treatment for this type of tumor is surgical, with nephrectomy or total nephroureterectomy, which, in addition to reducing the possibility of recurrence, will also serve as a treatment for hypertension secondary to hyperreninism. With resection, the prognosis is usually good, especially if the tumor is of the classic histologic subtype. Poor prognostic factors are related to age, the presence of positive surgical margins and the mixed histological type[1].

CONCLUSION

Congenital mesoblastic nephroblastoma is a rare disease, predominant in males, and which, during pregnancy, can lead to adverse pregnancy outcomes such as premature delivery. Its diagnosis can be suspected even during pregnancy, through ultrasound, however, in view of the differential diagnoses such as Wilms tumor, only the anatomopathological

study, after surgical treatment in the postnatal period, can confirm such a diagnosis.

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