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Short Communication

Fortuitous Discovery of Sacrococcygeal Teratoma: A Case Report

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Abstract

Sacrococcygeal teratoma is a rare disease, most often benign. The prognosis of this tumour depends on early diagnosis and treatment, which should always be considered in cases of associated hydramnios. We report a case of a newborn with a sacrococcygeal teratoma discovered in a parturient in the maternity department of the CHU ibn Rochd at term in labour with a poorly monitored pregnancy.

Keywords: Sacrococcygal teratoma; Mirror syndrome; Neonatal surgery

Introduction

Sacrococcygeal teratoma is a rare disease, most often benign. The prognosis for this tumour depends on early diagnosis and treatment, which should always be considered in cases of associated hydramnios. Sacrococcygeal teratoma is a rare condition (1 in 35,000-40,000 newborns) that occurs most frequently in female infants. It is a mostly benign tumour, detectable before birth, and is considered a surgical emergency due to its potential for malignant transformation from the 4th month of life [1]. The prognosis is generally excellent in the neonatal period, but becomes progressively poorer as the child ages. Diagnosis used to be made at birth, but is now easily accessible using ultra-sonographic examinations [2]. The prognosis depends on the histological nature of the defect, which is often and usually curable by surgery, and on its volume, which is the cause of numerous haemodynamic complications [3]. We report a case of a newborn with a sacrococcygeal teratoma discovered in a parturient in the maternity ward of the CHU ibn Rochd at term with a poorly monitored.

Results

The patient was Mrs. A.A, 24 years old, a poor woman who had consulted an obstetric emergency department for uterine contractions due to a pregnancy presumed to be at term and poorly monitored on a unicatricial uterus. Clinical examination revealed normal blood pressure, negative urine dipstick and a uterine height of 34 cm. Obstetric ultrasound showed a progressive singleton pregnancy with positive cardiac activity, cephalic presentation, with the presence of a mass appended to the distal end of the sacrum, more or less heterogeneous, with mixed content, with hypo- and hyperechoic areas, irregular boundaries with cystic components. On touch, dilatation to 2cm with a good bishop score, ERCF with no abnormalities.

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Morphological ultrasound revealed a sacrococcygeal teratoma

A prophylactic caesarean section was performed, allowing extraction of a male newborn Apgar 10/10, PN=4200 g. An initial assessment by the paediatrician revealed no respiratory distress, but swelling of the root of the lower limb and of the left thigh, so an opinion from the paediatric surgeons was sought (Figure 1).

Discussion

Sacrococcygeal Teratomas (SCTs) are defined as vestigial tumour malformations composed of multiple tissues derived from totipotent embryonic cells, these cells being capable of giving rise to more or less mature derivatives of the three primordial layers: ectoblastic, endoblastic and mesoblastic. It is therefore a more or less chaotic mixture of tissues and organic embryos, corresponding to all those which, correctly distributed, contribute to the construction of a normal organism. Despite their rarity, sacrococcygeal teratomas represent 40% of teratomas encountered in the neonatal period, and their frequency varies between 1/35000 and 1/40000 live births, which places them among the most widespread tumours of this period [2]. Teratomas, particularly those diagnosed in the neonatal period, occur most frequently in the sacrococcygeal region. However, they may be found in other locations depending on where the totipotent cells

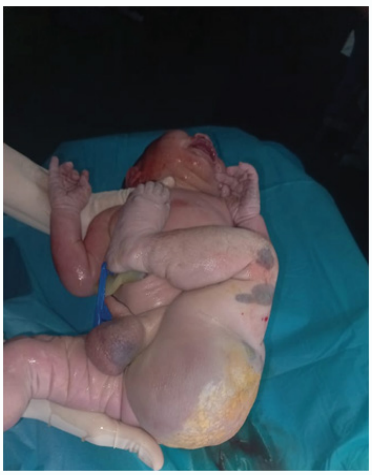

Figure 1: Sacrococcygeal teratoma in a New born.

migrate. The incidence of sacrococcygeal teratomas is approximately 1:40,000 and 1:35,000 live births [4]. There is a clear predominance of females, with a sex ratio of 1/3 to 4 [5]. Sacrococcygeal teratomas are considered to be surgical emergencies because of their potential for malignant transformation from the 4th month of life [1]. The prognosis is generally excellent in the neonatal period, but becomes progressively poorer as the child ages. In addition to the histological type of tumour, which is benign in 90% of cases, the other prognostic factors for SCT are: it's size and extension, the degree of prematurity and, finally, complete resection of the tumour [6]. Until a few years ago, SCTs were discovered incidentally, at the time of delivery, and depending on their volume, they could sometimes cause serious obstetric problems. Today, early diagnosis of sacrococcygeal teratomas is often possible thanks to ultrasound examination data, which is indicated either systematically or in the presence of a pregnancy anomaly such as hydramnios, leading to a search for a malformative aetiology [7]. In longitudinal section, the SCT appears as a mass, often poly-lobed, attached to the disc and posterior end of the foetus opposite the sacrum, respecting the spine. Its echo structure is better studied in transverse section; its variety reflects the different anatomopathological aspects of SCT [8,9]. In the past, SCT was discovered during childbirth, which generally caused serious obstetric problems requiring surgical management, which explains the poor perinatal prognosis of these tumours. Advances in ultrasound and foetal medicine now make it possible to recognize this pathology during pregnancy, but also to specify certain prognostic factors in order to provide better information to the couple. Prenatal knowledge of CST also makes it possible to ensure better obstetrical monitoring and, lastly, to plan delivery in a specialised facility where the newborn will be entrusted to the informed paediatric and surgical team under optimum conditions [10]. The literature confirms the important role of ultrasound, but the discovery of the malformation may be prompted by a clinical anomaly in the pregnancy (hydramnios, threat of premature delivery). The diagnosis can be made as early as 16 days' gestation, particularly thanks to the more precise endovaginal examination; more often, it is made by the morphological assessment at 22 days' gestation (with an average discovery term of 26.4 days) or by the existence of hydramnios or signs of hydrops [11]. It is used to: Assess the size of the tumour and its dynamic growth, determine whether it is cystic, solid or mixed, look for the presence of calcifications, intra-tumour haemorrhage or necrosis, and assess intra-pelvic extension. It also enables a differential diagnosis to be made, associated malformations and complications to be identified, the prognosis to be assessed, and the mode and timing of delivery to be determined. Doppler examination is used to assess the extent of tumour vascularisation [11]. When the TSC is tissue-based and highly vascularised by the middle sacral and internal iliac arteries, it behaves like a high-flow arteriovenous fistula with haemodynamic repercussions accentuated by the phenomenon of vascular flight [12]. Heart failure progressing to foeto-placental hydrops is the real turning point in the development of this condition. One of the other possible foetal complications is intratumoral haemorrhage with the formation of a consumption coagulopathy [13]. From a maternal point of view, the risk of pre-eclampsia is increased ("mirror syndrome"). In severe forms, the problems are those of prematurity (spontaneous or induced) and cardiovascular complications.

A poly malformative syndrome is frequently associated, with almost 20% of cases affecting the musculoskeletal system and especially the lower spine: hypoplasia of the sacrum, spina bifida occulta, hypoplasia of L5, spondylolysis, spondylolisthesis, vertebral blocks or partial fusion of L4-L5 [14].

The management of severe foetal pathologies, such as hyper vascular CST, requires multidisciplinary collaboration between obstetricians, radiologists, cardiac pediatrician, neonatologists, anaesthetists and paediatric surgeons. Antenatal management is based essentially on rigorous obstetric surveillance. However, the possible complications of hyper-vascularised forms of SCT mean that a more interventionist approach than simple antenatal monitoring is justified [15].

Conclusion

A sacrococcygeal teratoma is a germ cell tumour containing tissue from the two or three embryonic layers. It is the most common tumour in the neonatal period. The incidence of malignancy increases rapidly with age, as does the risk of metastasis to the peritoneal cavity, liver, lung and brain. The prognosis then becomes fearsome, with mortality reaching 80%. It is a neonatal emergency, and its diagnosis is obvious from perineal swelling and ante position. This diagnostic inspection must be carried out in the delivery room at the latest. Caesarean section according to the size of the tumour, assessed before birth, has eliminated dystocia and intra-tumoral ruptures per-partum. Early recognition allows complete removal, which treats most teratomas: at birth, they can all be removed, whatever the histological type.

Hence the importance of early diagnosis, which has become possible since the advent of ultrasound, and the majority of sacrococcygeal teratomas diagnosed in utero are treated postnatally after a planned delivery. However, some teratomas, which are very tissue-rich and hyper vascularised, give, rise to early and serious haemodynamic complications, with cardiac insufficiency, leading to hydrops or even death of the foetus. The mother is exposed to the risk of pre-eclampsia ("mirror syndrome").

Its diagnosis, after ruling out other diagnoses such as myelomeningocele or neuroblastoma, requires special maternal-foetal monitoring to assess the rate of tumour growth and detect early signs of foeto-placental hydrops. In addition, prenatal diagnosis should make it possible to avoid any secondary degeneration of certain SCTs, especially pure endopelvic forms, by early neonatal surgery.

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