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Fibromatosis Colli: A Rare Cervical Mass. Case Report from Sédhiou (Senegal) and Review of the Literature

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Abstract

Fibromatosis colli is a rare disorder of the sternocleidomastoid muscle (SCM) in newborns and infants. Although the etiology is unknown, it seems to be linked to an ischemia of the muscle related to an obstetric trauma. Its estimated incidence is 0.4% of births associated with male predominance. We report the case of a one-month-old female infant with a non-inflammatory right laterocervical swelling that had been present for a fortnight after birth. Ultrasound confirms the diagnosis. Conservative treatment by physiotherapy has enabled a favorable development. This rare case illustrates the importance of positive diagnosis based on clinical and ultrasound examination to avoid unnecessary invasive acts of the neck in infants.

Keywords

Fibromatosis Colli, Infant, Sédhiou, Senegal

1. Introduction

Fibromatosis colli is a rare disorder of the newborn or infant characterised by a benign proliferation of fibrous tissue within the sternocleidomastoid muscle, leading to focal or diffuse hypertrophy of the sternocleidomastoid muscle [1]. Its estimated incidence is 0.4% of births [2]. It was initially described in 1812 by K. F. Hulbert, as a congenital muscular tumor. Afterwards, Chandler and Altenberg

have demonstrated a characteristic, hard, motionless and fusiform swelling within the sternocleidomastoid muscle, generally objectified within two weeks of birth, the magnitude of which increases for two to four weeks before reaching the dimension of a "very large almond" [3]. Although etiology is unknown, it seems to be linked to an ischemia of the muscle related to an obstetric trauma [4] Cervical ultrasound makes it possible to confirm the diagnosis. It is accessible, not invasive, reliable with a sensitivity of 100% reported in the literature [4]. It reveals a fusiform swelling measuring 2 to 3 cm in size, located in the lower two-thirds of the muscle, and whose movements are synchronous with those of the sternocleidomastoid [5]-[7]. A mass of the neck in the newborn or child can sometimes pose a diagnostic problem. The precise diagnosis is important to avoid unnecessary invasive actions of the neck in infants [6]. We present a case of fibromatosis colli, never reported before in the south of Senegal.

2. Patient and Observation

Figure 1. Right latero-cervical mass developed at the expense of the SCM muscle.

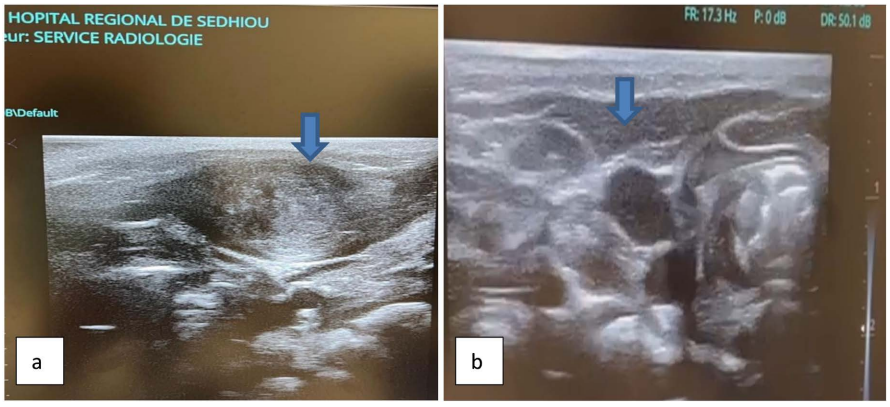

Figure 2. Longitudinal section (b) showing thickening of the SCM muscle compared with a normal muscle (a).

The patient was a one-month-old female infant who had been referred for an ENT consultation for a right laterocervical swelling that the mother had noticed 2

weeks after birth. The mother was primigest and primipare with intrauterine pregnancy without particularity. The delivery had occurred 36 weeks of amenorrhea by low way with episiotomy and the fetus presented itself by the seat. A concept of fetal suffering was reported: cyanosis, non-spontaneous cry, at birth. The child was revived and weighted 3.2 kg. No malformation has been objectified. The child's general condition was satisfactory. Physical examination objectified a right laterocervical mass, painless of about 2 cm of large axis, mobile, developed at the expense of the Sterno-Cleido-Mastoid muscle (SCM) (**Figure 1**). The movements of the head were not limited but there was a tendency to rotate to the left. The lymph node areas were free. A cervical ultrasound had been carried out. This ultrasound (USG) clearly showed an oval formation with peripheral vascularization developed at the expense of the right SCM muscle, ISO echogenous compared to the muscle measuring approximately 26 × 10 mm (**Figure 2**). No significant modification of the internal vascularity has been observed. There was no cervical lymphadenopathy. Based on these clinical and ultrasound observations, the diagnosis of Colli fibromatosis was made. We have recommended physiotherapy at home as a processing method. Passive stretching of the SCM was recommended with contralateral inclination and ipsilateral rotation, three times a day for one month. We also advised the mother to wear the baby as often as possible on the back, her face turned towards the side of the tumor. We also explained to her that the procedure should not be forced and should be interrupted in the event of resistance.

3. Discussion

Fibromatosis Colli still called the sternocleidomastoid tumor is a rare congenital condition. Its overall prevalence is estimated between 0.3% and 2% of births [8]-[11]. Nevertheless, its prevalence remains unknown in Africa. Few studies have been carried out on the subject [12] [13] the classification of the WHO of soft tissue tumors identifies the Colli fibromatosis as being a benign fibroblastic tumor [14]. It often occurs between the 2nd and the 4th week of birth in male infants [15] [16]. Although fibromatosis coli occurs more frequently in males, it has also been reported in females, as observed in our case [11]. The tumor was objectified by the mother in the second week of birth. However, some cases were reported in Morocco where the tumor was diagnosed much later (the oldest in the series was 7 years old) [11]. This delay in consultation observed in several African countries would be due to cultural beliefs and the socio-economic condition of populations. In the literature, the involvement is often straight unilateral (73% of cases) and male sex is the most affected [15]. Very rare bilateral involvement (2% to 3% of cases) has been reported in the literature [17] [18]. Several theories have been put forward, including intrauterine fetal malposition (Chair position), dystocic childbirth with trauma of the infant would result in stretching, tear or necrosis by pressure from the sternocleidomastoid muscle; Unknown endogenous factors would lead to the growth of a particular hamartomatous process within the SCM muscle [19] [20]. In our case, an obstetric history of fetal chair position and dystocic

childbirth has been reported. Sabounji *et al.* in their study carried out on a series of 26 cases reported a presentation per seat in 19.23% of cases, trauma at birth in 61.5% of cases. Conversely, Hakimi *et al.* during their study carried out on a series of 4 cases reported a cephalic position and an incident-free childbirth in all children [11] [18].

The diagnosis is made when a firm, unilateral, laterocervical mass, mobile under the skin and at one with the sternocleidomastoid muscle, occurs in the first few weeks of life [4]. The rare bilateral symptomatology has been described by Kumar *et al.* in two cases [17]. A torticollis is often associated where its initial name as a congenital muscular tumor [21]. The SCM muscle plays a key role in the movements of the head. An attack by the tumor logically induces an imbalance of these movements. In our case, overall head movements were not restricted. However, the right SCM mass caused a subtle asymmetry in muscle tone, resulting in a mild tendency for the head to rotate to the left. This indicates partial fibrosis or stiffness of the muscle, which is insufficient to produce overt torticollis but can slightly influence head posture and rotation. Ultrasound remains the examination of choosing the diagnosis, with a sensitivity of 100% [22]. Ultrasound allowed us, as for several authors, to easily diagnose pathology. The typical aspect is a fusiform thickening, well -limited heterogeneous of the sternocleidomastoid muscle on the affected side, there is no vascular and lymphatic involvement [22] [23]. Ultrasound eliminates not only the other critical lesions cervical such as gill cysts and thyreogloss cysts but also inflammatory lesions such as lymph node tuberculosis and the neoplastic conditions which could be non-malignant (hemangioma, cystic hygrome) or malignant (neuroblastoma, Rhabdomyosarcoma, and lymphoma) [11]. Other radiological examinations such as computed tomography (TDM), magnetic resonance (MRI) imagery can intervene in the diagnosis of lesion. At CT, the muscle appears extended, Isodense. At MRI, there is a decrease in the T2 mass signal compared to the signal in T1, linked to the presence of fibrous tissue. However, these methods expose infants to ionizing radiation [24]. Cytopunction can take place in the diagnosis of pathology. It highlights fibroblastic proliferation, muscle atrophy, giant muscle cells and an absence of inflammatory cells. Several studies show the prominent place of cytopunction in the diagnosis of the tumor [19] [20] [25]. Although cytopunction is a non-invasive technique, it can be either expensive or not available in certain hospitals as is the case in our hospital establishment.

Regarding treatment, it is mainly oriented towards a conservative approach involving physiotherapy and stretching movements. This approach consists in gently turning the newborn neck towards the side of the lesion about five to six times a day, maintaining the position for a brief duration. This practice is maintained for several months until the swelling begins to decrease [10]. Another approach more suited to our context was used in our case and in several other cases reported in the literature. The mother is advised to wear the baby as often as possible on the back, the face turned towards the side of the tumor [4] [11] [18]. Neck fibro-

matosis is often spontaneously resolved in four to eight months later. However, in refractory cases (less than 10%), alternative treatments such as type A botulinum toxin or surgical tennyotomy can be envisaged [10]. Hakimi in his series reported the case of a 7-year-old child, who had no improvement after physiotherapy. The child had an important functional handicap. A SCM Tenomyotomy has been carried out. At 6 months post-operative, there was a disappearance of torticollis and the late-cervical mass [11].

4. Conclusion

Fibromatosis colli or fibromatosis tumor of the child is a rare, congenital and benign tumor. Its prevalence is not reported in Africa, but several African authors are increasingly moving on the subject. Although its etiology remains unknown, it could mainly result from trauma suffered either during fetal development in utero, or to childbirth. The diagnosis includes good anamnesis, clinical and radiological assessment. Ultrasound makes it possible to rule out other more serious differential diagnoses. Treatment is based on gentle physiotherapy and, in most cases, leads to spontaneous regression without sequelae. The importance of having reported this case in Sédhiou, south of Senegal, made it possible to familiarize itself with this little-known tumor and to have more knowledge on this subject for adequate treatment.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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