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Fibromatosis Colli, a Rare Cause of Neck Mass in Infants: A Case Report

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Abstract

Fibromatosis colli is a benign fibrous mass developed from the sternocleidomastoid muscle. The exact etiologies are unknown. It seems that it is due to birth trauma. Ultrasound is the diagnostic tool of choice. The treatment is based on physiotherapy.

We report the case of an infant aged 2 ½ months who presented a neck mass. It is associated with a restriction of neck's movements. The diagnosis was made by ultrasound. The therapeutic treatment was based exclusively on physiotherapy.

Keywords: Fibromatosis colli; Tumor of infancy; Neck mass; Sternocleidomastoid muscle

Introduction

Fibromatosis colli has been described for the first time by the German Hulbert as tumor torticollis of the sternocleidomastoid muscle. It is a benign lesion of this latter which is linked to congenital fibrosis and manifested clinically by a neck swelling and torticollis [1]. The Prevalence is 0.4% of live births [2].

It is clinically presented by a neck mass with restricted neck's movements for the new-born. The exact causes of this disease are not yet known, but it is attributed in most of the time to ischemia of the muscle after an obstetric trauma or intrauterine trauma during the 3rd trimester of pregnancy. It is the etiology that could be in our case [3]. The diagnostic tool of choice is the ultrasound which is non-invasive examination.

Case report

We report the case of a 2 ½ months infant who is male and born at term in good general conditions. He was born by caesarean section following a lack of engagement of the vertex after complete dilatation of the cervix. He has been addressed to the ENT consultation for a right neck swelling that was recently perceived by his parents.

Clinical findings include a right neck mass that was firm, painless and measured about 3 cm. The mass is attached to the sternocleidomastoid muscle which is non-inflammatory. It resulted a slight restriction of neck's movement on the right side (Figure 1). There is no pathological family history, consanguinity, and notion of fever or trauma.

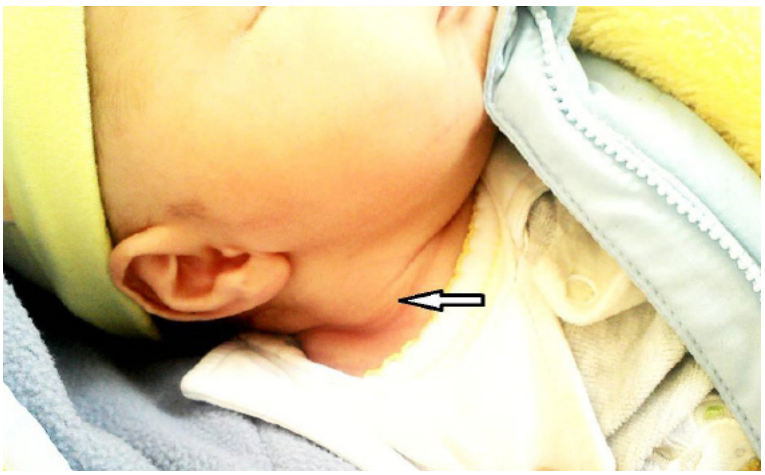

Figure 1: Neck swelling on the right side

We have found at the cervical ultrasound an echoic and homogeneous mass that depends on the sternocleidomastoid muscle. It revealed also an avascular Doppler. The mass measures 25.23 x 9.77 mm. The left sternocleidomastoid muscle appears normal with no cervical lymphadenopathy. Thyroid, parotid and submaxillary glands were normal (Figure 2).

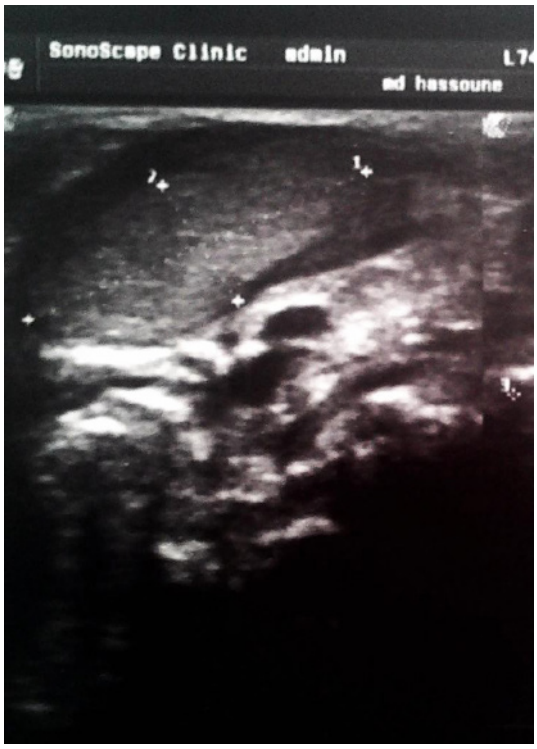

Figure 2: USG: fusiforme enlargement of the right scm muscle

The diagnosis of fibromatosis colli is retained on clinical findings which are supplemented by the ultrasound. It shows the typical signs of the lesion.

No medical or surgical treatment has been prescribed. It was based exclusively on physiotherapy which was explained to the parents in order to do it at home. The reeducation consisted rotating the child's head at least 5 to 6 times towards the side of the lesion, then hold it for at least 30 seconds in this position every day. We also explained to them not too forced and stop at the least resistance.

A remarkable reduction in the size of the mass was observed after 4 weeks of physiotherapy. It disappeared completely in 5 months which results a return to normal neck's movement (Figure 3).

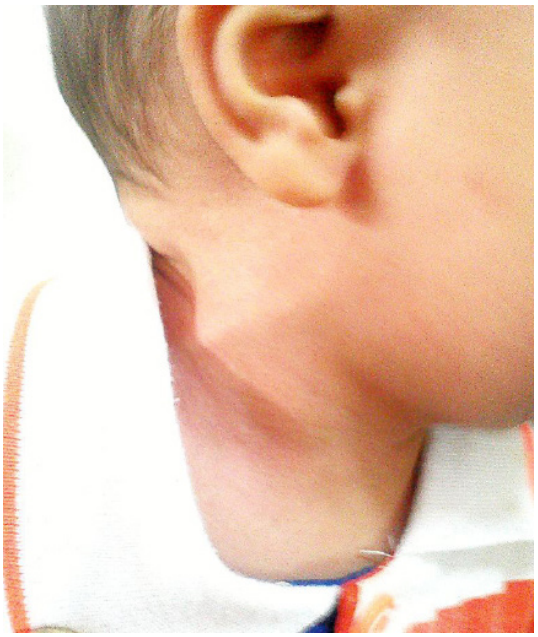

Figure 3: Disappearance of the swelling after physiotherapy

Discussion

Fibromatosis colli is a rare benign tumor of the sternocleidomastoid muscle that presents as a palpable mass during the first weeks of life. Its prevalence is 0.4% with male predominance [2].

It is classified in the category of benign fibroblast proliferations as classified by the World health organization in 2002 of soft tissue tumors [3].

It occurs mostly after obstructed labor, it appears during 2 to 4 weeks after birth. Its exact etiologies are not yet known or its pathophysiologic mechanism which is still not well understood. It is often linked to obstetric trauma, obstructed labor and venous insufficiency causing a degeneration of muscle fibers [4]. The right side is most affected (73%) than the left side (22%) [5-7].

Radiological examination of choice for diagnosis is ultrasound. It is a harmless, noninvasive, and inexpensive examination. It has also a sensitivity of 100% [8]. It shows a fusiform thickening of the sternocleidomastoid muscle with a normal appearance of the contralateral muscle, with no cervical lymphadenopathy and signs of infiltration [9]. Ultrasound alone can confirm the diagnosis, but sometimes we may use CT and MRI to rule out other differential diagnosis. The CT scan shows is attenuated enlargement of the sternocleidomastoid muscle with normal surrounding fascial planes. MR imaging shows the mass on T2-weighted with increased signal intensity compared to normal muscle [6].

In cases of atypical presentation, diagnosis can be supported by fine needle aspiration cytology or biopsy. In our case, the diagnosis is retained on clinical examination completed by ultrasound. Latter shows typical signs of the lesion. The Torticollis can be associated in 20% of cases [10]. Some cases of bilateral fibromatosis colli were described but remain extremely rare [11].

The differential diagnosis is with other benign and malignant cervical tumors such as rhabdomyosarcoma, neuroblastoma, lymphoma, cervical lymphadenopathy and branchial cyst that have a particular clinical picture and radiological signs with clean each etiology.

Treatment is based mainly on active and passive physiotherapy which causes the regression of the volume of the mass to its total disappearance in 4 to 6 months. There is no consensus on the duration of reeducation. We found in the literature a variable durations ranging from 12 months to school age. There are different recommendations regarding the duration of time for physiotherapy. Wei *et al*. recommended at least 12 months [12] while Radtke recommended it continuously until school age years [7]. The duration of treatment in young infants is lower than in older infants [13]. In our case, the treatment was based exclusively on physiotherapy. We explained to the parents how to do it at home, rotate the head of the child towards the side of the lesion at least 5 – 6 times per day, and hold it for few seconds in this position. The evolution was favorable since the mass disappeared completely after 5 months. In case of failure of physiotherapy, surgery may be indicated (tenotomy or tenomyotomy). Recently, promising trials used botulinum toxin in the treatment of fibromatosis colli. It will reduce surgical indications [14].

90% of cases would have a favorable evolution if treatment was initiated early [11]. There are no cases of recurrence described in the literature [9].

Conclusion

Fibromatosis colli is a rare cause of cervical swelling in new-born and infants. The diagnosis is based on clinical examination completed by ultrasound. It is the diagnostic method of choice.

Treatment is based on physiotherapy which leads to a complete regression of the mass with a return to normal neck's movement in most cases. Treatment should be begun early to ensure a better outcome.

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