Basic and Clinical Sciences
ISSN 1309-5102
DOI: dx.doi.org/10.12808/ bcs.v3i1.5000034084
dergipark.ulakbim.gov.tr/bcs Basic Clin Sci 2014; 3: 18-21

Case Report / Olgu Sunumu

Fibromatosis Colli: A rare neck mass in infancy

Fibromatozis colli: Bebeklik çağındaki nadir bir boyun kitlesi

Mehmet H. Atalar[1], İsmail Şalk[1,1], Nisa Bozbıyık[1], Ali Kaya[2]

Departments of [1]Radiology and [2]Pediatrics, Cumhuriyet University Faculty of Medicine, TR-58140 Sivas

Abstract

Fibromatosis colli (FC) is a rare form of infantile fibromatosis occurring in the sternocleidomastoid muscle, occurring in the 1st to 8th weeks of life with a history of a non-tender neck mass and torticollis. We present a case of FC in a 6-week-old female baby presented with right neck mass and torticollis, diagnosed with ultrasonography.

Keywords: Fibromatosis colli, sternocleidomastoid muscle, ultrasonography

Özet

Fibromatozis kolli bebeklerde görülen fibromatozisin sternokleidomastoid kasta görülen nadir bir formudur, yaşamın ilk 1-8 haftasında görülen, ağrılı olmayan ve tortikolise neden olan bir boyun kitlesidir. Ultrasonografi ile fibromatozis kolli tanı konulan, sağ boyun kitlesi ve tortikolis ile başvuran 6 haftalık bir kız bebek olgusu sunulmaktadır.

Anahtar sözcükler: Fibromatozis kolli, sternokleidomastoid kas, ultrasonografi

Introduction

Fibromatosis colli (FC), also known as sternocleidomastoid (SCM) tumor of infancy, pseudotumor of infancy, and congenital muscular torticollis, is categorized as a benign fibroblastic proliferation in the 2002 World Health Organization (WHO) classification of soft-tissue tumors. It is the most frequent cause of congenital torticolis. Its etiology is unknown and it is likely related to birth trauma or results from an in utero fetal head position [1-3]. Ultrasonography (US) is the imaging method of choice for evaluating congenital neck lesions in children, and the results can often suggest the correct diagnosis. Computed tomography (CT) or magnetic resonance imaging (MRI) is sometimes required to define the extent of the lesion [4, 5]. In this article, we describe the US pattern of this entity in order to facilitate its recognition and to avoid more invasive methods for diagnosis.

[1] **Corresponding author:**
Dr. İsmail Şalk, Radyoloji Anabilim Dalı, Cumhuriyet Üniversitesi Tıp Fakültesi, Sivas
Email: ismailsalk@gmail.com

This article may be cited as: Atalar MH, Salk I, Bozbiyik N, Kaya A. Fibromatosis Colli: A rare neck mass in infancy. Basic Clin Sci 2014; 3: 18-21. Available from: dergipark.ulakbim.gov.tr/bcs/.

DOI: dx.doi.org/10.12808/ bcs.v3i1.5000034084
Basic Clin Sci 2014; 3: 18-21

Case

A 6-week-old female baby presented with right neck mass and torticollis. The mass was firm and well circumscribed, and found within the right SCM muscle. She also had torticollis with her chin and face turned to the left shoulder. The remainder of her physical examination was normal. Laboratory results were normal limits. Ultrasonographic examination of the neck demonstrated a homogenously diffuse enlargement of the right SCM muscle without focal mass lesion. The lesion was slightly hyperechoic according to the muscle (Figures 1a 1b). There was no mass effect and no abnormal cervical lymphadenopathy. Cervical vascular structures were found to be normal. Clinical and imaging findings were typical of FC. No treatment was undertaken, and the lesion showed gradual resolution in the ensuing months.

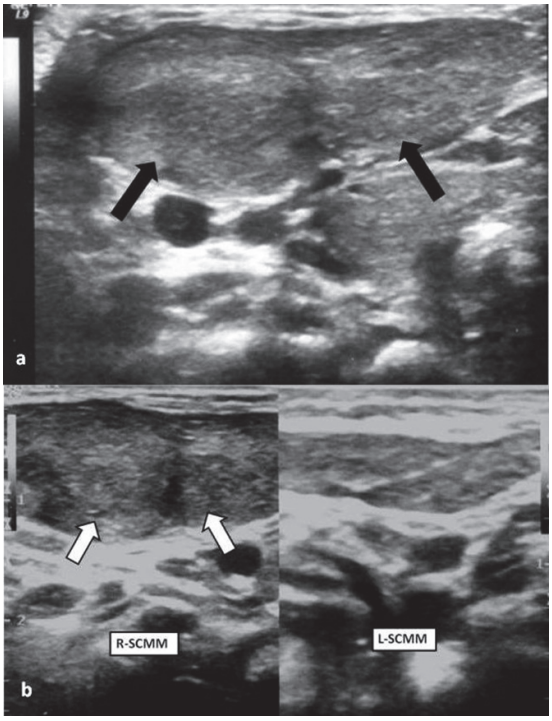

Figure 1. Fibromatosis colli in a 6-week-old girl with right-sided neck mass and torticollis. Longitudinal US images (a, b) demonstrate diffuse enlargement of the right sternocleidomastoid muscle with mixed echogenicity relative to the adjacent musculature (arrows). The left sternocleidomastoid muscle is normal.

Discussion

FC is a rare form of infantile fibromatosis occurring in the SCM muscle. It usually occurs in the 1st to 8th weeks of life with a history of a non-tender neck mass and torticollis (tilting of the head toward the same side with rotation of the chin toward the opposite side) in 14 to 20% due to muscle contraction. It is a firm, painless, discrete, fusiform mass within the

This article may be cited as: Atalar MH, Salk I, Bozbiyik N, Kaya A. Fibromatosis Colli: A rare neck mass in infancy. Basic Clin Sci 2014; 3: 18-21. Available from: dergipark.ulakbim.gov.tr/bcs/.

DOI: dx.doi.org/10.12808/ bcs.v3i1.5000034084
Basic Clin Sci 2014; 3: 18-21

SCM typically measuring between 1 and 3 cm. in diameter [1, 3, 4, 6]. FC affects male patients slightly more often than female patients. The mass is typically located in the middle or inferior portions of the SCM muscle. FC is usually unilateral and generally found on the right side. Our patient had the lesion on the right side of the neck. Bilateral involvement is rare. In addition to torticollis, patients may present with lytic clavicular lesions, ipsilateral mandibular asymmetry, plagiocephaly, occipital condyle asymmetry, elevation of the ipsilateral clavicle and shoulder, facial deformities and postural cervicothoracic scoliosis [1-4].

The etiology of FC is unknown. One possibility may be intrauterine malposition causing restriction of blood supply to the sternal and middle fibers of the SCM. Another possible cause is birth trauma, particularly through breech deliveries, with pressure necrosis and organizing fibrosis. Compartment syndrome causes necrosis of the SCM muscle and resultant fibrosis [4, 6-8].

US is the principal diagnostic tool for FC and has 100% sensitivity. The infant neck is best imaged with a high-frequency (7-MHz) transducer. A linear array transducer is preferred in order to image a larger near field of view, since most structures of interest are relatively superficial. Ultrasonographic findings include a uniformly isoechoic or slightly hypoechoic mass within the muscle or a homogeneously enlarged SCM muscle without a focal mass. The mass can be hypo-, iso-, or hyper- echoic, depending on age. With real-time ultrasonography, the lesion can be shown to move synchronously with the SCM muscle. CT or MRI should not be necessary when both the ultrasonographic and the clinical findings are compatible with FC, as in our case [3, 5-7]

In addition to FC, the differential diagnosis of soft-tissue masses in the neck of a neonate includes neuroblastoma, rhabdomyosarcoma and other sarcomas, lymphoma, cystic hygroma, and branchial cleft cyst. Lesions that are more often midline or near the midline include dermoid cyst, teratoma, or thyroglossal duct cyst. The most useful imaging findings that suggest that the lesion is not FC is extension of the mass beyond the SCM muscle. Additionally, neuroblastoma and rhabdomyosarcoma characteristically have an infiltrative appearance, with irregular margins. They may also contain calcifications. Lymphoma is s by the presence of oval masses corresponding to enlarged lymph nodes along the cervical lymph node chain [1, 4, 5-7, 8, 9].

Biopsy or surgical intervention should not be necessary if the imaging findings and clinical setting are appropriate for the diagnosis of FC. Treatment primarily consists of physical therapy. There is usually gradual improvement after the institution of physical therapy, with increased range of motion over a period of 4 to 6 months [1-3, 6, 7]

In conclusion, the diagnosis of FC can be made by only US. In most cases, MRI, CT, fine needle aspiration, and histologic examination are not necessary.

References

1. Chan FA, Attenberg A. Congenital muscular torticollis. J Am M Assoc 1994; 125: 476-83.
2. Crawford SC, Harnsberger HR, Johnson L, Aoki JR, Giley J. Fibromatosis Colli of Infancy: CT and Sonographic Findings. AJR 1988; 151:1183-4.

This article may be cited as: Atalar MH, Salk I, Bozbiyik N, Kaya A. Fibromatosis Colli: A rare neck mass in infancy. Basic Clin Sci 2014; 3: 18-21. Available from: dergipark.ulakbim.gov.tr/bcs/.

DOI: dx.doi.org/10.12808/ bcs.v3i1.5000034084
Basic Clin Sci 2014; 3: 18-21

3. Turkington J, Paterson A, Sweeney L, Thornbury GD. Neck masses in children. Br J Radiol 2005; 78: 75-85.
4. Jaber MR, Goldsmith AJ. Sternocleidomastoid tumor of infancy: two cases of an interesting entity. Int J Pediatr Otorhinolaryngol 1999; 47: 269–74.
5. Smiti S, Kulkarni NM, Singh J. Case report: Fibromatosi colli in a neonate. Indian J Radiol Imaging 2010; 20: 45-6.
6. Garetier M, Breton S, Pennaneach A, Barberot C, Chinellato S, Rousset J. Fibromatosis colli. Presse Med 2012; 41: 213–4.
7. Ablin DS, Jain K, Howell L, West DC. Ultrasound and MR imaging of fibromatosis colli (sternomastoid tumor of infancy). Pediatr Radiol 1998; 28: 230-3.
8. Murphey MD, Ruble CM, Tyszko SM, Zbojniewicz AM, Potter BK, Miettinen M. Musculoskeletal Fibromatoses: Radiologic-Pathologic Correlation. RadioGraphics 2009; 29: 2143–76.
9. Ekinci S, Karnak I, Tanyel FC. Infantile Fibromatosis of the Sternocleidomastoid Muscle Mimicking Muscular Torticollis. J Pediatr Surg 2004; 39: 1424-5.

This article may be cited as: Atalar MH, Salk I, Bozbiyik N, Kaya A. Fibromatosis Colli: A rare neck mass in infancy. Basic Clin Sci 2014; 3: 18-21. Available from: dergipark.ulakbim.gov.tr/bcs/.