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Images of Interest / Imagens de Interesse

Cervical Mass in an Infant

Massa Cervical num Lactente

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Abstract

Fibromatosis colli is the most severe presentation of congenital muscular torticollis and a relatively rare cause of neck swelling in neonates and infants. We present a case of a 6 weeks old male infant who was admitted to the emergency department with a mass in the left lateral-cervical region. Two soft tissue ultrasounds were performed showing multiple adenopathy and one week later a new ultrasound was performed by a radiologist experienced in pediatric imaging that was suggestive of fibromatosis colli. Ultrasound is the diagnosis imaging modality of choice if there is any doubt in the diagnosis. It shows focal or diffuse enlargement of the sternocleidomastoid muscle in a fusiform configuration.

Keywords

Cervical mass; Fibromatosis colli; Congenital torticollis.

Resumo

A *Fibromatosis colli* é a apresentação mais grave do torcicolo muscular congénito e uma causa rara de tumefação cervical em recém-nascidos e lactentes. Apresentamos o caso de um lactente do sexo masculino com 6 semanas de vida que deu entrada no serviço de urgência com uma massa na região látero-cervical esquerda. Foram realizadas duas ecografias de partes moles que mostraram múltiplas adenopatias e após uma semana foi realizada uma nova ecografia por um radiologista experiente em pediatria que era sugestiva de *fibromatosis colli*. A ecografia é a modalidade de diagnóstico de escolha se existir dúvida no diagnóstico. Normalmente mostra aumento focal ou difuso do músculo esternocleidomastóideo em configuração fusiforme.

Palavras-chave

Tumefação cervical; *Fibromatosis colli*; Torcicolo congénito.

Description

A 6 weeks old male infant, with a closely monitored pregnancy and eutocic birth without complications was observed in the Emergency Department (ED) presenting a left cervical mass first noticed three days before, without any accompanying symptoms. Physical examination revealed facial asymmetry with impaired left cervical rotation and a 3 cm wide mass in the left lateral-cervical region (zone III), firm, immobile and painless. A soft tissue ultrasound showed multiple adenopathy, the largest measuring 31x14 mm (Fig. 1). A full blood count, C-reactive protein and Epstein-Barr Virus serology were requested, which did not reveal any abnormalities. Reactive adenopathy was considered a probable cause, and so clinical reassessment was scheduled within 72 hours. The patient´s reassessment was identical and a second ultrasound examination of lymph nodes showed findings indicative of a reactive process. He was then referred for a pediatric consultation and, 1 week later, an ultrasound reassessment by a pediatric radiologist showed a fusiform thickening of the left sternocleidomastoid muscle that was suggestive of fibromatosis colli (Fig. 2). The patient then began physiotherapy with a significant improvement and the condition completely resolved within 4 months.

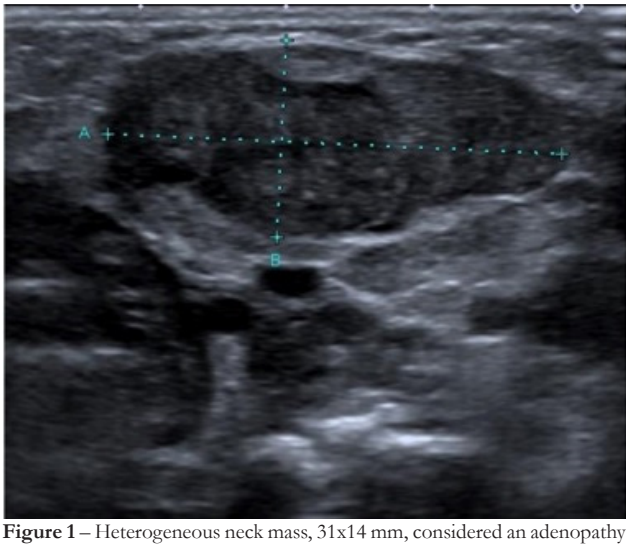

Figure 1 – Heterogeneous neck mass, 31x14 mm, considered an adenopathy

Fibromatosis colli is the most severe presentation of congenital muscular torticollis and a relatively rare cause of neck swelling in neonates and infants. This pathology occurs in 0.4% of newborns.[1] The pathogenesis is still unclear, but it is believed that, after a complicated delivery, there may be neck compression leading to ischemia with consequent damage to muscle fibers.[1,2] Typically, it appears 2-4 weeks after birth, most commonly following a difficult delivery.[3] But even in cases of infants with a normal delivery this diagnosis should be kept in mind. It is usually a self-limiting condition resolving within 4-8 months which requires only physical therapy and conservative management.[3,4] Fibromatosis colli is classified as a benign fibroblastic and myofibroblastic tumor according to the new WHO classification of Soft Tissue Tumors.[5] The diagnosis is possible through the history

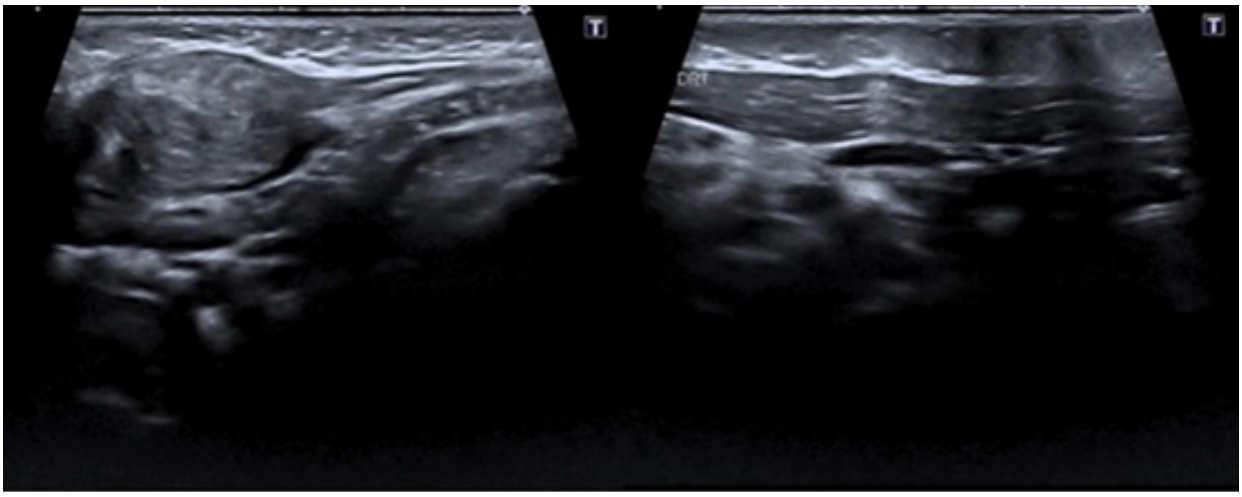

Figure 2 – Fusiform thickening of the left sternocleidomastoid muscle. Contralateral sternocleidomastoid muscle with normal thickness and ecostructure

and physical examination and, normally, it is possible to see the head of the neonate tilted toward the affected side, and there may be an associated jaw rotation to the contralateral shoulder due to sternocleidomastoid muscle contracture. The abnormal position of the neck may lead to facial asymmetry and positional plagiocephaly.[6]

The differential diagnosis of pediatric neck masses is extensive and should always be considered,[7] the most frequent being the differential diagnosis with adenopathy as in our clinical case.

Ultrasound is the diagnosis imaging modality of choice if there is any doubt in the diagnosis. It shows focal or diffuse enlargement of the sternocleidomastoid muscle in a fusiform configuration.[8] The mass moves synchronously with the rest of the sternocleidomastoid muscle on real-time sonography. Unlike fibromatosis colli, adenopathy is characterized by ultrasound as a conglomerate tangled mass with normal homogeneously low echogenicity parenchyma and preservation of fatty hyperechoic hilum alongside ovoid morphology.[9] Maddalozzo and Goldenberg reported that ultrasonography was 100% sensitive for diagnosis when there is a strong suspicion from the clinical history and physical examination of fibromatosis colli.[10]

The importance of an accurate clinical diagnosis is thus emphasized, and a confident diagnosis implies the need for an ultrasound examination by a radiologist experienced in pediatric imaging with knowledge of the sonographic characteristics of this clinical entity.[8]

Ethical Disclosures / Divulgações Éticas

Conflicts of interest: The authors have no conflicts of interest to declare.

Conflitos de interesse: Os autores declaram não possuir conflitos de interesse.

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Confidentiality of data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.

Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Protecção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

References

1. Nai G, del Hoyo M. Diagnóstico de fibromatosis colli por punção aspirativa por agulha fina: relato de três casos. J Bras Patol e Med Lab. 2005;41:205-7.
2. Alves M, Branco L, Lopes A, et al. Perinatal clinical case. Nascer E Crescer - Birth Growth Med J. 2018;27:263-5.
3. Khalid S, Zaheer S, Wahab S, et al. Fibromatosis colli: A case report. Oman Med J. 2012;27:1-3.
4. Baik G, Blask A, Reilly B. Unilateral neck mass in neonate. J Pediatr. 2018;202:329.
5. Sbaraglia M, Bellan E, Dei Tos AP. The 2020 WHO Classification of soft tissue tumours: news and perspectives. Pathologica. 2021;113:70-84.
6. Wei JL, Schwartz KM, Weaver AL, Orvidas LJ. Pseudotumor of infancy and congenital muscular torticollis: 170 cases. Laryngoscope. 2001;111:688-95.
7. Weinstock MS, Patel NA, Smith LP. Pediatric cervical lymphadenopathy. Pediatr Rev. 2018;39:433-43.
8. 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.
9. Bansal AG, Oudsema R, Masseaux JA, Rosenberg HK. US of Pediatric superficial masses of the head and neck. RadioGraphics. 2018;38:1239-63.
10. Maddalozzo J, Goldenberg JD. Pseudotumor of infancy-the role of ultrasonography. Ear Nose Throat J. 1996;75:248-54.