

Fibromatosis Colli in Bamako: An Entity to Know in Infants

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Abstract

Introduction: Fibromatosis colli is a congenital muscle tumor with an incidence of 0.4%. This lesion is fibrous involving the sternocleidomastoid muscle, discovered after a few weeks of life in a patient who had known or unknown perinatal trauma. Rarely bilateral, it evolves spontaneously favorably in a few weeks or months in the vast majority of cases. **Objectives:** The purpose of this work is to bring the interest in ultrasound in the management of fibromatosis colli. **Material and Methods:** This is a descriptive cross-sectional study covering a period of 21 months from December 2019 to December 2021 in the medical imaging department of the medical clinic “Marie Curie” in Bamako. The variables analyzed were age, sex and ultrasound results. The ultrasound system used was General Electric (GE). Data analysis was performed using Excel software. **Results:** During the 21-month study period, 1260 infants were seen in our service, including 0.95% for cervical swelling. We had a male predominance with 8 cases out of 12 cases and the age of the patients was mainly between 21 days and 30 days. The diagnosis was made by ultrasound, which revealed within the Sterno-cleido-mastoid muscle (MSCM) a hypo-isoechoic or heterogeneous oblong mass or thickening without any other associated anomaly. **Conclusion:** Cervical ultrasound is a significant examination in the management of fibromatosis colli for diagnostic confirmation and therapeutic follow-up.

Keywords

Cervical Ultrasound, Infant, Fibromatosis Colli, Medical Clinic “Marie Curie”

1. Introduction

Fibromatosis colli or hematoma of the sternocleidomastoid muscle is a benign

cervical pseudotumor in infants. This lesion is fibrous and involves the sternocleidomastoid muscle, hard and non-inflammatory [1].

It is rare and encountered in 0.4% of live births of questionable malformative etiology or post-traumatic birth [1] [2] [3] [4]. The prevalence in Africa is not well known. Fibromatosis colli manifests clinically as a later ocervical swelling without pain or redness after a few weeks of life in a patient who has had known or unknown perinatal trauma. Rarely bilateral, it evolves spontaneously favorably in a few weeks or months, in the vast majority of cases. In Mali, particularly in Bamako, no serial study has yet been carried out on the subject. We report a series of 12 cases of fibromatosis colli diagnosed at the medical imaging department of the “Marie Curie” Medical Clinic. The objective of this work is to bring the interest of ultrasound in the diagnosis of fibromatosis colli and to describe its epidemiological aspect.

2. Material and Methods

This is a cross-sectional descriptive study that involved all infants referred to the medical imaging department of the “Marie Curie” Medical Clinic in Bamako (capital of Mali) for later cervical swelling covering a period of 21 months from December 2019 to December 2021.

The variables analyzed were sex, age, and ultrasound results (ultrasound appearance, right or left location of the lesion and bilaterally).

All infants with cervical swellings seen on ultrasound at the Marie Curie medical clinic were included. Non-consenting patients and those older than 1 year were not included.

Age, gender, and analysis of ultrasound data were collected using clinical records archive sheets.

The devices used were GE (General Electric) including a Voluson 730 PRO ultrasound scanner with 4 probes and a VIVID 3 ultrasound scanner with 3 probes by 3 radiologists depending on the day.

Data analysis was performed using Excel software.

We withheld informed consent from the parents of all infants.

3. Results

During the study period spread over 21 months, we found a male predominance with 8 male infants (66.66%) and 4 female infants (33.33%). The age of the patients was between 5 days and 30 days, the majority of which (between 21 - 30 days), *i.e.*, 7 cases or 58.33% (see **Table 1**). A notion of dystocia was mentioned in the majority of the parents of our infants (75% of cases, *i.e.*, 9 parents out of 12). All our patients had laterocervical swelling (see **Figure 1** and **Figure 2**). A case of torticollis was brought. The diagnosis of Fibromatosis colli was made on ultrasound in all our patients (**Figure 1** and **Figure 2**). The 12 patients all underwent cervical ultrasound using the 4 - 12 MHz multifrequency strip probe, which objectified heterogeneous thickening of the right or left Sterno cleidomastoid

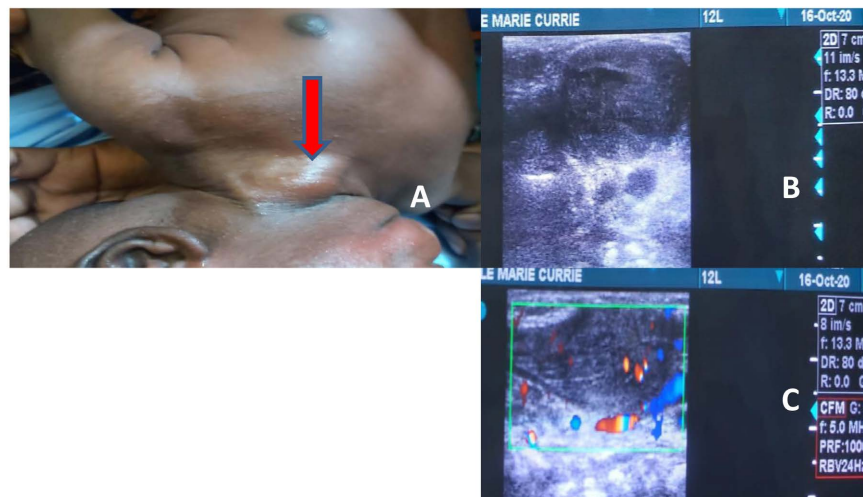


Figure 1. Right cervical swelling (A), Cervical ultrasound ((B) and (C)) showing thickening infiltration of the right sternocleidomastoid muscle with some vascularization: fibromatosis colli.

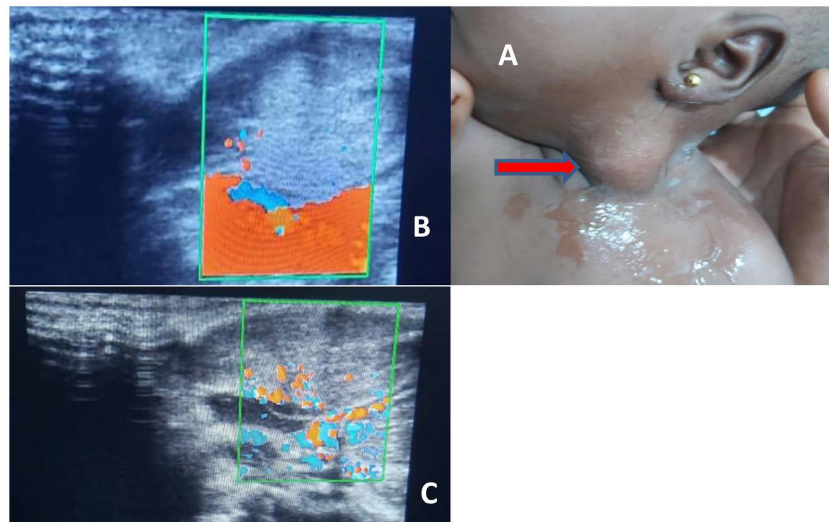


Figure 2. Left cervical swelling (Red arrow (A)), ultrasound ((B) and (C)) demonstrates echogenic fusiform thickening with vascularization in the left sterno-cleido-mastoid muscle.

muscle with vascularization in most cases (**Figure 1** and **Figure 2**). We found damage on the right side in 9 patients, *i.e.*, 75% of cases (see **Table 2**). The ultrasound examination was compared with a size difference of more than 10 mm compared to the healthy side. This comparison was systematic in all our patients. There was no visible bilateral involvement in our series. All patients received rehabilitation which consisted in rotating the head on the side of the lesion. The treatment was coordinated by the attending physician of the requesting department, which was not the clinic itself. There was no notion of surgery and these rehabilitation treatments were carried out by the physiotherapist of the requesting service and the parents of the infants, in particular the mothers.

Table 1. Distribution of patients by age.

Age	Effective	Percentage
1 - 10 days	2	16.67
11 - 20 days	3	25
21 - 30 days	7	58.33
Total	12	100

Table 2. Distribution of patients according to the site of the lesion.

Seat	Effective	Percentage
Right	5	25
Left	9	75
Total	12	100

The evolution was favorable in all our patients within an average period of 06 - 11 months.

4. Discussion

Fibromatosis colli is a benign pseudotumor of the sternocleidomastoid muscle due to fibroblast proliferation. Although the etiology is unknown, it seems to be related to muscle ischemia related to obstetrical trauma. A notion of obstetric trauma is found in more than 50% of cases [1] [2] [4] in the literature which is not the case in our series; we found dystocia and notion of trauma in 83.33% of cases. It sits more frequently on the right in 75% of cases with a male predominance, as found in our series [1] [3] [5]. It is one of the causes of neonatal torticollis. Torticollis is present in about 20% of cases; one case of torticollis was found in our series (8.33% of cases). Bilateral involvement is rarely described [1] [2]. We had no cases of bilaterality in our study. It presents as a firm cervical swelling, mobile under the skin forming one body with the sternocleidomastoid muscle [1] [2] [6], which is superimposable in our study (100% of cases).

Cervical ultrasound is the radiological method of choice. It is accessible, non-invasive, and reliable with a sensitivity of 100% reported in the literature. It demonstrates a spindle-shaped swelling of 2 to 3 cm sitting in the lower two-thirds of the muscle, and whose movements are synchronous with the sternocleidomastoid muscle [1] [2] [4] [7]. In our series, all our infants were seen on ultrasound with the superficial probe (4 - 12 MHz) objectifying a heterogeneous thickening of the sternocleidomastoid muscle on the side of the swelling described clinically compared to the contralateral side, which seems homogeneous not thickened with a difference of more of 10 mm with the pathological side.

In the literature, other means of imaging have been found: On computed tomography, the muscle appears enlarged, isodense. On magnetic resonance imaging (MRI), there is a decrease in the mass signal in T2 compared to the signal

in T1, linked to the presence of fibrous tissue. The extent of muscle damage is better appreciated by magnetic resonance imaging than by ultrasound [1] [2]. None of our patients benefited from the scanner or the MRI because the ultrasound was enough to make the diagnosis.

In our series, it was not found necessary to perform cytopuncture, which is indicated to confirm the diagnosis and eliminate other congenital, inflammatory and tumoral causes. Fine needle aspiration avoids unnecessary biopsies or surgeries. It highlights fibroblastic proliferation, muscle atrophy, giant muscle cells and an absence of inflammatory cells. The differential diagnosis includes branchial cyst, lymphadenopathy, rhabdomyosarcoma and neuroblastoma [1] [2] [4].

Treatment is conservative and effective with continual rehabilitation in the ward and at home by parents for at least 4 months. Spontaneous healing can also occur [1] [3] [6] [8] [9] [10]. All infants in our study benefited from rehabilitation with recovery in 100% of cases. Surgery is recommended if symptoms persist beyond a year. It will be an open tenotomy or excision of the mass [1] [3] [8] [11].

The limitations of the study were non-archived patients and patients with incomplete records.

5. Conclusion

Fibromatosis colli is an entity known in the diagnosis of a cervical mass in infants. The radiological characteristics make it possible to differentiate it from other cervical masses in children. Cervical ultrasound is an ideal examination and the first choice in the management of cervical swelling in children and infants. It allows to confirm the diagnosis of fibromatosis colli and to make the therapeutic follow-up.

Conflicts of Interest

The authors declare no conflict of interest.

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