Aims: The aim is to identify the epidemiological, diagnostic, therapeutic, evolutionary aspects, and risk factors related to the occurrence of this condition.

Subjects and Methods: It was a retrospective and descriptive study of a series of 26 cases of fibromatosis colli collected over a period of 3 years (from January 1, 2017 to December 31, 2019). We studied the following parameters: frequency, age, sex, delay of consultation, motive of consultation, gravidity, parity, type of delivery, notion of birth trauma, birth weight, examination findings, ultrasound results, type of treatment, and evolutionary modalities. The data were collected from patients’ files. The analysis was done on Excel 2016.

Results: The frequency was 6.5 cases/year. The mean age was 2.1 months. The average delay of consultation was 6.3 weeks. A notion of obstetrical trauma was found in 16 cases (61.5%). Primiparity was noted in 15 cases (57.5%). Associated torticollis was noted in 03 cases. Cervical ultrasonography was performed in all cases (n = 26/26) enabling diagnostic confirmation. Surveillance was the main treatment (84.6%). After a mean follow-up of 20.8 months, evolution was favorable in the majority of patients. The average time of complete regression of the mass was 3.8 months.

Conclusions: Rare condition of the newborn and infant for which the diagnosis is clinical and the confirmation is based on ultrasound. The management is simple and based on surveillance. The evolution is most often toward spontaneous regression.

Keywords: Birth trauma, fibromatosis colli, infant, newborn, sternocleidomastoid

INTRODUCTION

Fibromatosis colli (FMC) was first described as the sternocleidomastoid tumor of childhood (SCMT). It is a unique form of perinatal fibromatosis resulting in the development of a tough mass in the sternocleidomastoid muscle (SCM) of the newborn. It is a rare condition that is particularly seen in newborns and infants. Its frequency in Africa seems to be unknown, and its cause remains ambiguous. In Senegal, no study, to our knowledge, has been conducted on this condition; hence, the purpose of this work in which we report, to our knowledge, the largest series in the African literature. The aim was to identify the epidemiological, diagnostic, therapeutic, evolutionary aspects, and risk factors related to the occurrence of this condition.

SUBJECTS AND METHODS

It was a retrospective and descriptive study of a series of 26 cases of FMC collected over a period of 3 years (from January 1, 2017 to December 31, 2019). We studied the following parameters: frequency, age, sex, delay of consultation, motive of consultation, gravidity, parity, type of delivery, notion of birth trauma, birth weight, examination findings, ultrasound results, type of treatment, and evolutionary modalities. The data were collected from patients’ files. The analysis was done on Excel 2016.

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RESULTS

The frequency was 6.5 cases/year representing approximately 1.68% of consultations. The mean age was 2.1 months (7 days–8 months). More than half of the patients were infants ($n = 16/26$) followed by neonates ($n = 10/26$). Male patients were predominant ($n = 20/26$) with a sex ratio of 3.3. The average consultation time was 6.3 weeks (1 week to 8 months). Primiparity was observed in 15 cases (57.5%). The vaginal birth was the most frequent delivery mode ($n = 23/26$), and the breech presentation was found in 05 cases. Birth trauma related to dystocia was found in 16 cases (61.5%). The average birth weight was 3050 g (2400 g–3800 g). The main complaint was a cervical swelling ($n = 23/26$) and an abnormal position of the child’s head ($n = 03/26$). Physical examination revealed in all cases a mass of variable size between 1 and 6 cm long and firm, mobile with SCM muscle, not inflammatory, not impulsive, with a normal surrounding skin located on the upper or middle part of the SCM muscle trajectory [Figure 1]. The right side ($n = 13/26$) (50%) was more frequently affected than the left side ($n = 12/26$) (46.2%). In only one patient, the location of the swelling was bilateral. Associated conditions were noted: torticollis (03 cases), homolateral clavicle fracture (01 case), and umbilical hernia (03 cases). Cervical ultrasound was performed in all cases ($n = 26/26$) allowing diagnostic confirmation and showing a fusiform or oval subcutaneous formation developed at the expense of the upper or middle third of the sternocleidomastoid, avascular on Doppler [Figure 2]. Treatment was conservative in all cases without physical therapy. A simple surveillance prohibiting any massage was recommended in 22 patients (84.6%). In three patients (11.5%), the treatment consisted in carrying the child on his back with his head turned toward the affected side. In one patient with torticollis and moderate neck deviation, a cervical collar was placed for 1 month with good head support after removal. After a mean follow-up of 20.8 months, the evolution was favorable in most of the patients with a complete resolution of the mass in 21 cases (80.8%), and the persistence of a small infra-centimeter nodule in 5 cases (19.2%). The mean time to the disappearance of the mass was 3.8 months (1–8 months).

DISCUSSION

First of all, we find it necessary to point out the confusion that exists in the nomenclature of this condition. Referred to as sternocleidomastoid tumor of childhood (SCMT), congenital torticollis (CT), and congenital muscular torticollis” are all terms used by different authors to describe FMC. Except that these terms are confusing because Congenital torticollis (CT) can be a separate entity, not associated with FMC. Just as FMC may or may not be associated with torticollis, which generally disappears with the regression of the mass. Therefore, we agree with Ling et al. that these terms should be abandoned.

The frequency of FMC is 0.4%. The mean age at admission is between 2.5 and 3 weeks. The average age of appearance of the swelling varies between 1 and 8 weeks. In our series, late consultation explains the delay in diagnosis compared to foreign series where most patients are seen during the neonatal period. The male predominance is obvious in various series. According to several authors, the right side is most often affected. However, our series and Thompson’s series do not show a side predilection. Although extremely rare, with an incidence of 2%–3%, bilateral localization during infancy has also been described. Twin pregnancy, breech presentation, and small pelvis were identified, in our series, as predisposing situations ($n = 9/15$) (60%) to the occurrence of a birth trauma by creating an obstacle to the presentation during the passage of the genital tract.
Our study, therefore, supports the theory of obstetrical trauma as a risk factor in the occurrence of FMC with a 61.5% rate recorded. This could be explained by the lower rate of antenatal consultations during pregnancy, which aims to diagnose any abnormal conditions that could be responsible for a potential dystocia resulting in a birth trauma. Cesarean section can also be identified as a risk factor for obstetrical trauma, especially as in two-thirds of the cases in this series, the cesarean section was not intended, but rather followed a difficult labor in which vaginal delivery was no longer possible, thus giving time for possible trauma of SCM muscle. Primiparity may also be associated with the two other risk factors mentioned above. A few authors report associated musculoskeletal abnormalities (6%–20%) such as facial asymmetry and hip dysplasia. Torticollis is associated in 14%–71.4% of cases depending on the series. Its disappearance may be spontaneous and concomitant with the regression of the mass. Ultrasound remains the first-line examination for the evaluation of a cervical mass in children. Synchronous mobility with the SCM confirms its relationship with the muscle and provides more certainty to the diagnosis. Other methods can be used in situations of diagnostic uncertainty such as magnetic resonance imaging, CT, or fine-needle aspiration cytology. In fact, Sharma et al. demonstrated the efficiency of cytology as a minimally invasive technique in rapid diagnosis compared to other imaging techniques, although they are noninvasive, expensive, and not available in all hospitals. However, we believe that a careful clinical examination coupled with ultrasound is adequate to establish the diagnosis in most cases. Biopsy remains the last resort for cases of high suspicion of malignancy or difficult to diagnose by cytology. The natural history of FMC is a spontaneous regression in the majority of infants during the 1st year of life. In most of the studies, physiotherapy is indicated as the first line of treatment. However, in our series, simple surveillance without physiotherapy was indicated, thus showing a good outcome. The same finding was made by Adamoli and al. However, physiotherapy is of great interest in the prevention of torticollis. Surgery is indicated in case of persistence of the mass beyond 1 year or in case of craniofacial asymmetry. The various surgical procedures used are tenotomy, muscle lengthening and excision of the SCM and surrounding muscles. Botulinum toxin, which is currently being tested, could be an alternative treatment in case of failure of conservative treatment.

CONCLUSIONS
The diagnosis of FMC must be considered in all newborns or infants presenting with a swelling located on the SCM trajectory, whether it is unilateral or bilateral, and especially with a history of obstetrical trauma, and must motivate an ultrasound scan. Surveillance or at most physiotherapy should be the first line of treatment before the age of 1 year because the evolution is most often toward spontaneous regression.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initial s will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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