

# Clavicle tuberculosis revealed by a lytic lesion in a child presenting with a neurofibromatosis

G Ngom, C Diémé, M Fall, O Ndour, I Fall, M Ndoeye

## Citation

G Ngom, C Diémé, M Fall, O Ndour, I Fall, M Ndoeye. *Clavicle tuberculosis revealed by a lytic lesion in a child presenting with a neurofibromatosis*. The Internet Journal of Pediatrics and Neonatology. 2006 Volume 7 Number 2.

## Abstract

Introduction: osteoarticular tuberculosis mostly affects vertebrae, the hip and the knee. This is an observation of clavicle tuberculosis initially considered as a malignant tumor in a child presenting with a type I neurofibromatosis.

Observation: A 11 year old child was seen for an indolent swelling located in the left clavicle since six months, without fever neither trauma. At the physical exam the temperature was 36, 9 °C; there was an indolent hard and cold swelling, fixed on the left clavicle, and no tangible adenopathy. We also noticed about twenty café au lait spots disseminated on the abdomen and the lower limbs and a scoliosis; all of that leading to suspect a type I neurofibromatosis. The biologic check up showed an inflammatory syndrome with a blood sedimentation rate of 80mm at the first hour. The left shoulder X-ray showed a lytic lesion of the clavicle and an increased radiodensity of the surrounding soft tissues. Because of the high suspicion of malignant tumor in the field of neurofibromatosis and the operatory findings, a cleidectomy was done. Clavicle tuberculosis was found at the pathological exam. The child has been treated by a combination of antituberculous drugs during 10 months, with a good evolution.

Conclusion: Tuberculosis must first of all be suspected in front of any clavicle lesion in African people, even a lytic lesion, because of the endemic evolution of the infection in this region.

## INTRODUCTION

Osteoarticular tuberculosis is rare. But the prevalence is increasing, mostly because of the HIV infection. It mostly affects vertebrae, the hip and the knee. This is an observation of clavicle tuberculosis in a child, rare because of its localisation, its occurrence in the field of neurofibromatosis and its expression by a lytic lesion leading to a cleidectomy before the diagnostic confirmation.

## OBSERVATION

A 11 year old child was seen for a swelling located in the left clavicle. This swelling spontaneously occurred six months ago without any trauma. The slow enlargement of the swelling and the recent occurrence of fever lead to come in the hospital. The physical exam found a temperature of 36, 9 °C with a hard painful swelling located at the intermediate 1/3 of the left clavicle. We also noticed about twenty café au lait spots, variable in size, disseminated on the body, some sub-cutaneous nodules located at the abdomen and the lower limbs and a scoliosis, all of that

leading to suspect a type I neurofibromatosis. Apart from that the physical exam was normal: there was no adenopathy. The left shoulder X-ray showed a lytic lesion of the clavicle and an increased radiodensity of the surrounding soft tissues [figure 1]. The diagnosis of left clavicle cancer has been suspected in this field of neurofibromatosis. The complete blood count was normal. The blood sedimentation rate was increased at 80mm at the first hour. The lungs X-ray and the abdominal ultrasonography were normal. Because of this suspect lesion, a clavicle biopsy was decided. The surgical exploration showed a lesion interesting the internal 2/3 of the clavicle, breaking the cortical and reaching the muscles around. Because of the high suspicion of malignant tumor, a cleidectomy and an excision of the concerned muscles were done. One month after the surgery, there was still at the operatory wound a fistula outputting a serous fluid. The histological exam done 45 days after surgery concluded: "this lesion is mostly constituted by a fibrovascular tissue containing a polymorph inflammatory infiltration, with some epithelioid and giant-cell granulomas.

These granulomas are variable in size and some of them contain a central necrosis. A part from the epithelioid and giant cells, there are lymphocytes and some rare neutrophil cells. There is no sign of malignant process. In conclusion the histological aspect is the one of bone tuberculosis". The child received a combination made of four antituberculous drugs during 2 months, followed by a combination made of two drugs during 8 months. After one month of treatment, the fistula of the operatory wound was resorpted. The blood sedimentation rate had decreased to 10 mm at the first hour. After a management of 18 months, the movements of the left shoulder were quite normal.

**Figure 1**

Tuberculosis of left clavicle mimicking malignant lesion.



**DISCUSSION**

Osteoarticular tuberculosis is rare. It represents only 1 to 5% of extra-pulmonary forms [2]. Despite that fact, its raise is crescent, even in developed countries [3]. The predilection yields are children, old people, poverty and immunodeficiency [4]. It mostly locates in vertebrae, the hip and the knee. The clavicle localisation is exceptional [5, 6]. Eleven cases have been reported in the world since 30 years and children were concerned in only four of them [7]. The diagnosis is rarely suspected before biopsies because tumors are much more frequent than infections in this bone [6]. Concerning our child the diagnosis of tuberculosis was done by the histological exam, it shows an epithelioid and giant-cell granuloma, containing a central necrosis. If the diagnosis is quickly done the treatment is medical: the intake

of a combination of four antituberculous drugs during 2 months, followed by a combination of 2 antituberculous drugs during 8 to 10 months. The response to the treatment is controlled clinically by the decreasing of the swelling, and biologically by the normalisation of the blood sedimentation rate. The bone reconstruction must be controlled on the X-ray. The surgery is only indicated for bone biopsies, or to discharge cold abscesses and then inhibit the progression of the infection [8]. The occurrence of a lytic lesion in the field of neurofibromatosis leads us to strongly suspect a cancer, mostly because this disease could lead to malignant tumors [9]. That is why a cleidectomy and an excision of muscles involved were done. The same attitude was adopted by Fang and al. who reported a case in a patient under dialysis [6]. We think, as Abdelwahab, that any atypical bone lesion in a black patient must be considered like a tuberculosis lesion till no evidence [10]. This is mostly true for our child because he lives in an endemic region.

**CORRESPONDENCE TO**

Dr Gabriel Ngom BP : 6863 Dk – Etoile e-mail : gngom2004@yahoo.fr Tel : 00221 552 00 80

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**Author Information**

**G. Ngom**

Assistant, Department of Paediatric Surgery, Aristide Le Dantec Hospital

**C. Diémé**

Assistant, Department of Traumatology, Aristide Le Dantec Hospital

**M. Fall**

Resident, Department of Paediatric Surgery, Aristide Le Dantec Hospital

**O. Ndour**

Resident, Department of Paediatric Surgery, Aristide Le Dantec Hospital

**I. Fall**

Professor, Department of Paediatric Surgery, Aristide Le Dantec Hospital

**M. Ndoye**

Professor, Department of Paediatric Surgery, Aristide Le Dantec Hospital