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Giant Cell Tumor of the Proximal Phalanx of the Little Finger about One Case in Our Milieu

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Abstract

Giant cell tumor is a benign primary bone tumor. The phalangeal localization is rare. It is distinguished from other locations by the local aggressiveness of the tumor and a high rate of recurrence. We report one case of a 25-year-old right-handed nurse with no reported pathological history who complained about an ulcero-budding mass of the right little finger evolving one year ago. She would have initially consulted a bonesetter who would have taken care of her by using decoctions. The hand X-ray showed an osteolytic tumor of the first phalanx of the right little finger with a "honeycomb" appearance invading the soft tissues. We carried out the amputation of the radius. The postoperative course was simple with healing of the surgical wound and disappearance of the axillary adenopathy. The surgical specimen after anatomopathology exam concluded to be a grade 2 giant cell tumor of Senerkin.

Keywords

Giant Cell Tumor, Phalanx, Little Finger, Amputation of the Radius

1. Introduction

Giant cell tumors (GCTs) are benign bone tumors that most often located at the ends of the long bones, hence the expression "close to the knee and away from the elbow" [1]. Phalangeal localization is rare. They only affect the hand in 2% of cases [2]. These locations are different from GCTs of others sites by local aggressiveness of the tumor and especially by a high rate of recurrence [3]. TDM and MRI are performed in case of suspected malignancy. Histological examination is the key to diagnosis it makes it possible to eliminate other diagnoses (aneurysm, enchondrome…). The therapeutic modalities are varied. Prognosis is dominated

by recidivism and pulmonary metastases. Phalangeal localizations of TCG are rare and known for their recidivism and local aggressiveness. This observation concerned a phalangeal localization of a GCT in a 25-year-old patient right-handed nurse complains about an ulcero-budding mass of the right little finger in whom we performed a 5th ray amputation as a cure. We report this case in order to share our experience in management of this lesion and keep mind of clinician in existence of it.

2. Case Report

25-year-old right-handed nurse has no reported pathological history. She complains about an ulcero-budding mass of the right little finger which had been evolving for a year. The beginning signs were dominante by painful swelling next to the first phalanx of the little finger. Initially, she consulted a bonesetter who takes care of her by using decoctions for months. The increase in the volume of the mass and the occurrence of a foul-smelling wound finally lead her to consult the emergency room of the Tambacounda regional hospital for treatment.

Clinically, she had a good general examen. An ulcero-budding mass of 6 cm long axis and 3 cm short axis was present, firm and hard in consistency, with a nauseating odor encompassing almost all of the 5th ray (**Figure 1** and **Figure 2**). Elsewhere, ipsilateral axillary adenopathy was palpated. The other part of the examination was unremarkable.

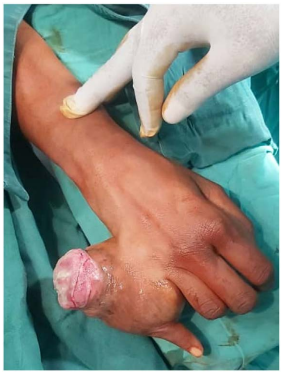


Figure 1. Dorsal view of the tumor.

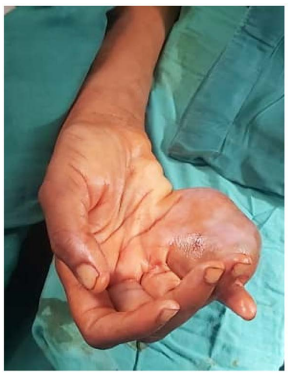


Figure 2. Palmar view of the tumor.

Hand X-ray performed, showed a tumor of the first phalanx of the little finger with cavity, cortices swollen, thinned and broken in places invading the soft tissues giving the appearance of a honeycomb (Figure 3).

Under ulnar block, we performed amputation of the radius up to the base of the 5th metacarpal by making a dorso palmar incision in racket of the skin under the skin, of the tendons, then let's roughen the base of the 5th metacarpal and proceed to its section. We resealed all the structures in mono block after has repair the common flexor and extensor tendons of the fingers, finally close the wound in 2 planes, (Figure 4 and Figure 5). The postoperative course was simple, marked by healing of the surgical wound, removal of the sutures on D15, rehabilitation of the member was prescribed for functional recovery, especially grip strength. The patient was lost view after being informed of the histological nature of the tumor and this did not allow us to continue the follow up. The surgical specimen sent to the anatomopathology shows tumor proliferation with osteoclassical multinuclead geant cells concluded to a grade 2 Senerkin giant cell tumor (Figure 6).

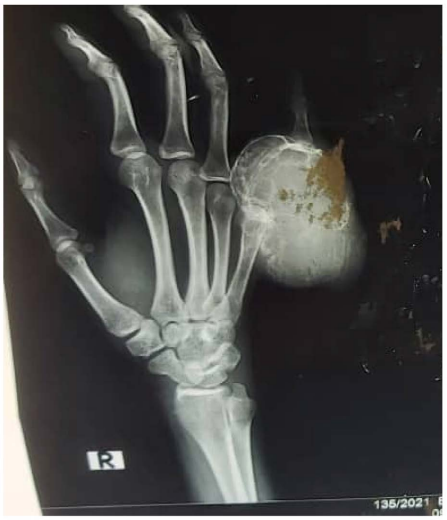


Figure 3. Honeycomb radiological appearance of the phalanx of the 5th ray.

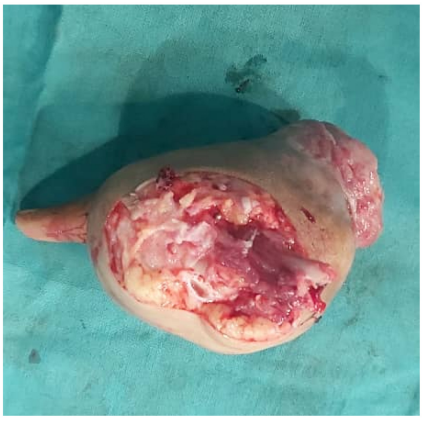
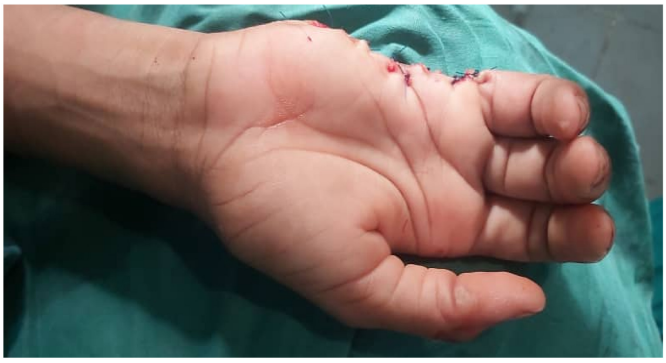


Figure 4. One-piece surgical specimen after amputation of the 5th ray.



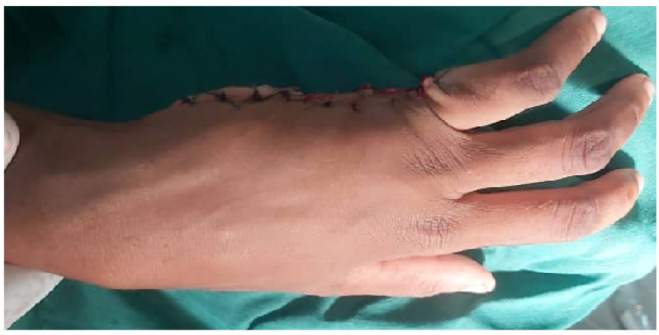


Figure 5. Dorsal and palmar view of the hand after tumor amputation.

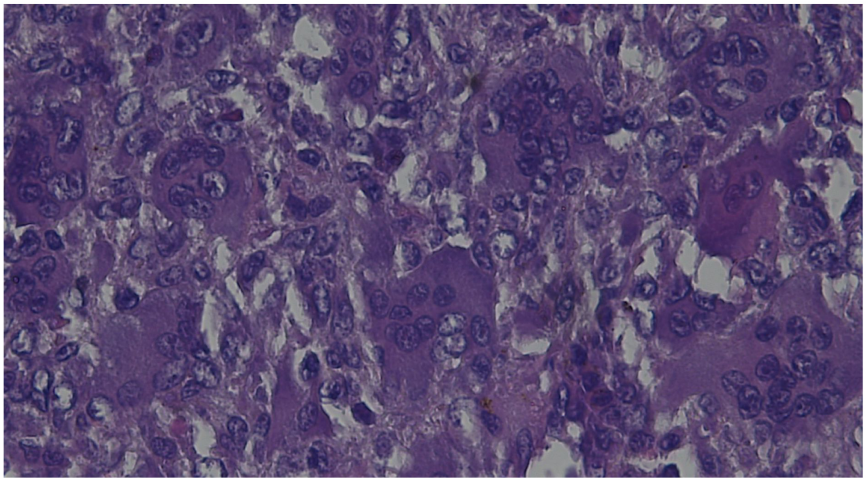


Figure 6. Histological image of the tumor shows tumor proliferation with osteoclassical multinucleated geant cells.

3. Discussion

GCTs are infrequent tumors and represent only 5% to 10% of primary bone tumors [1] [2] [3] [4]. They were first described in 1818 by Astley Cooper. It took until 1940 for Jeff and Lichtenstein to distinguish them from other bone tumors as a separate entity [5] [6]. The hand is one of a rare location with an order of frequency metacarpals, phalanges and carpals. Thus, out of a series of more than 2400 skeletal GCTs reported in the literature, less than 50 cases concerned the phalanges of the hand [7]. They generally sit in the epiphyseal-metaphyseal re-

gions with an extension to the subchondral bone or cartilage and sometimes to neighboring structures after rupture of the cortex [1]. They affect more the young adult with a peak between 20 and 40 years. A slight female predominance has been reported [1]. They are exceptional before the end of growth and unusual after 50 years [8].

Clinic exam is dominated by swelling, pain, limitation of articular amplitudes and sometimes the signs of a pathological fracture constitute the revealing mode [1] [2] [3] [4]. However, this symptomatology is not specific to them. However, the delay in consultation, the application of decoctions and pregnancy are aggravating factors that would even accelerated the evolution of tumor in our case. In our environment bonesetters are the first to be consulted before any recourse to modern medicine which is often not without consequences.

Although the definitive diagnosis of a tumor is histological, certain radiological aspects can lead us to suspect GCTs while awaiting histological confirmation. It can be concluded in front of an epiphyseal or eccentric epiphyseal- metaphyseal gap, with blown and thinned cortices with the presence of partitions thus realizing the classic aspect of "honeycomb". As for magnetic resonance imaging, it identifies the best biopsy site and assesses the intraosseous extension, the invasion of the soft tissues and the relationship with the adjacent vasculo-nervous axes better than the scanner [9]. Scintigraphy is reserved for multicentric and recurrent forms [10]. Several classifications have been proposed, the first of which was that of Jaffé-Lichtenstein in 1940 [11]. They all have therapeutic, histological, radiological and prognostic interests. In general, they are grouped into 3 grades of which grades I, II are benign and grade III is malignant. Senerkin grade II (borderline tumours) corresponds to that of our patient. Moreover, these classifications are all useful. They contribute to making the diagnosis, staging the tumor, planning better management and above all improving the prognosis. The treatment of GCTs is essentially surgical [1]. Its aims are the local control of the tumor but above all the functional preservation of the hand. The choice of surgical procedure depends on the grade. Simple curettage, filling curettage using acrylic cement or autograft or allograft and resection of the radius with reconstruction by endoprosthesis or spacer are reserved respectively for grade I and II. For grade III, the indication of an amputation of the segment or of the radius is essential. Of course, in the face of any tumor, the best decision is to resort firstly to biopsy before going on to surgery. Despite this classic approach, certain arguments (a large tumor volume, an extension to the soft tissues, an ulceration with a foul odor, the delay in the acquisition of the result of the biopsy) allowed us to proceed with the amputation of radius before any biopsy. Besides surgery, other treatments have still not reached the consensus of the authors: radiotherapy, chemotherapy, embolization and cryotherapy. The prognosis of bone GCTs is dominated by recurrences and the possibility of occurrence of pulmonary metastases despite the benign nature of the primary tumor [12]. This is why monitoring must be rigorous and close.

4. Conclusion

Phalangeal giant cell tumors remain rare with unspecific clinical exam. Imaging lead us to better evaluate the lesion, its relationship with neighboring structures and to properly plan treatment and monitoring. The definitive diagnosis is histological. Even well treated, GCTs of the phalanges can progress to pulmonary metastases or recurrences that require rigorous monitoring.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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