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CASE REPORT

Chondrosarcoma of the Distal Phalanx of the Little Finger: A Case Report

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Abstract

We report the case of a 15-year-old nursing mother who presented with a painful mass on her left little finger for 12 months. Imaging revealed a lytic lesion of the entire distal phalanx and part of the middle phalanx, with cortical disruption and invasion of surrounding tissues. Amputation of the fifth ray was performed. Histology confirmed a grade 2 chondrosarcoma of the phalanx. The patient has not experienced a recurrence.

Keywords: Chondrosarcoma, Distal Phalanx, Little Finger, Nurse.

1. Introduction

Chondrosarcoma is a malignant cartilaginous tumor. This tumor is sporadic in the hand and its diagnosis is difficult [1]. This tumor can be primary or arise from a pre-existing lesion (chondroma) [2]. We report the case of a 15-year-old nursing mother who presented with a painful mass on her left little finger for 12 months. Imaging showed a lytic lesion of the entire distal phalanx and part of the middle phalanx, with cortical disruption and invasion of surrounding tissues. Amputation of the fifth ray was performed. Histology confirmed a grade 2 chondrosarcoma.

2. Case Report

M.D., a 15-year-old right-handed nursing mother, was referred from a health district for the management of a painful swelling on her left little finger that had been present for 12 months. She initially consulted a traditional healer who applied a poultice for months without success. The rapid increase in swelling, which became increasingly painful, prompted her to seek medical attention at a healthcare facility.

Clinically, she was in good general condition. Locally, a 3 cm diameter rounded mass was noted on the distal phalanx, invading the surrounding tissues. The skin overlying the mass was hyperpigmented in places, with loss of the nail [Figure 1]. The mass was soft and painful to palpation. Elsewhere, there was no ipsilateral axillary lymphadenopathy.

Figure1. *Dorsal and palmar view of the mass with hyperchromic mass and disappearance of the nail.*

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X-rays and a CT scan of the hand showed complete lysis of the distal phalanx and the distal portion of the middle phalanx [Figure 2].

Figure 2. *Radiological appearance of the tumor with complete cortical lysis and thickening of the soft tissues.*

We performed a transverse amputation of the fifth metacarpal [Figure 3]. The surgical wound healed in 12 days. The histopathological results indicated a grade 2 chondrosarcoma, with a histological appearance of a malignant cartilaginous proliferation composed of atypical chondroblasts. [Figure 4].

Figure 3. *Trans-M5 amputation of the little finger, palmar and dorsal view of the hand.*

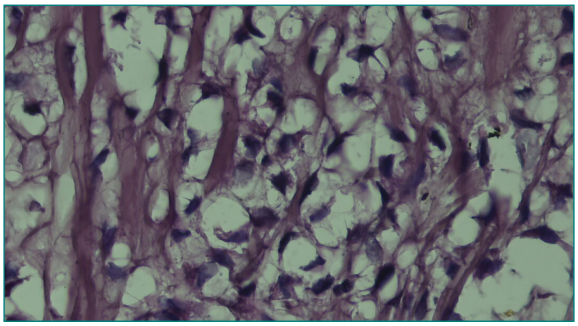

Figure 4. *Histological appearance of the tumor showing a malignant cartilaginous proliferation, formed of atypical chondroblasts.*

3. Discussion

Chondrosarcoma is a rare tumor, accounting for only 4% of all malignant tumors and 1-1.5% of all skeletal chondrosarcomas [3,1].

This tumor was differentiated from other bone sarcomas by Phemister in 1929. Jaffe and Lichtenstein described its histological features in 1943 [4].

One unusual aspect of our case is the young age of our patient (15 years).

This tumor typically occurs in the fifth and sixth decades of life, with a marked female predominance [5].

In the hand, the most common location for chondrosarcoma is the phalanges (68%) compared to the metacarpals (32%) [6].

Clinically, the symptoms are identical to those of other tumors, beginning with a swelling that gradually increases in size and becomes increasingly painful. In our patient, the rapid increase in tumor volume was likely due to a delay in seeking medical attention, the application of poultices by the traditional healer, and pregnancy may also have contributed.

Imaging (standard radiography and CT scans) is diagnostically helpful, particularly in identifying criteria of malignancy, such as cortical erosion, periosteal reaction, and soft-tissue infiltration

following cortical rupture [7,8]. It is worth noting the complete lysis of the distal phalanx, with cortical rupture, and soft-tissue invasion in our patient.

However, despite the presence of these criteria of malignancy, a diagnosis of chondrosarcoma cannot be made, because, as with all tumors, a definitive diagnosis remains histological. Typically, the management of these tumors follows a classic approach [9] (biopsy; curettage with filling of the void using acrylic cement or cancellous bone and segmental or ray amputation depending on the location and progression of the tumor).

Contrary to this classic approach, our therapeutic choice of transmetacarpal amputation of the fifth ray was motivated by the clinical and radiological aspects of the tumor, on the one hand;

On the other hand, given the challenging context of our work environment, including limited access to histopathology and the risk of losing follow-up, there was a need to address the danger she might face if treatment were discontinued.

However, it would be difficult for us to speak of recurrence in our patient, as we opted from the outset for radical treatment. In contrast, recurrences are a common occurrence with conservative treatments [10,11].

4. Conclusion

Chondrosarcoma is a rare tumor of the hand, often posing diagnostic challenges and requiring correlation of clinical, radiological, and histopathological data. Despite its low metastatic potential, amputation of the affected digital segment remains the only oncologically recommended treatment, thus preventing recurrence and metastasis.

5. References

1. Canizares F, Garrido I, Chevreau C, Pinsolle V, Grolleau JL, Chavoin JP. The chondrosarcoma of the hand: review of the literature about a case and a proposition of a decision-making therapeutic tree. Ann Chir Plast Esthet. 2007;52: 609-15.
2. Ennouri K, Charfi H, Baccari S, Tarhouni L, Jaafoura H, Bahri H. Les chondrosarcomes de la main [Chondrosarcoma of the hand]. Chir Main. 2006 Feb;25(1):40-7. French. Doi: 10.1016/j.main.2005.12.005.
3. Essadki B, Belabidia B, Fikri T, Moujtahid M, Lamine A, Essadki O, et al. Le chondrosarcome de la main. Discussion diagnostique et thérapeutique (à propos de trois cas). Chir Main 2001; 20:164–71.
4. Lichtenstein L, Jaffe HL (1943) Chondrosarcoma of bone. Am J Path 19: 553-74
5. Jones HB, Murphree J, Suryavanshi JR, Osemwengie BO, Rosqvist S, Cox CT, MacKay BJ. Multifocal chondrosarcoma of the hand: Case report and review of the literature. Clin Case Rep. 2021 Jun 9;9(6):e04352. doi: 10.1002/ccr3.4352.
6. García-Jiménez A, Chanes-Puiggrós C, Trullols-Tarragó L, Pulido-García MC. Chondrosarcoma of the Hand Bones: A Report of 6 Cases and Review of the Literature. J Hand Surg Asian Pac Vol. 2019 Mar;24(1):45-49. doi: 10.1142/S2424835519500085.
7. Mulder JD, Schutte HE, Kroon HM, Taconis WK. Radiologic atlas of bone tumors. In: Chapter III.2. Amsterdam: Elsevier; 1993. p. 139–71.
8. Patel MR, Pearlman HS, Engler J, Wollowick BS. Chondrosarcoma of the proximal phalanx of the finger. Review of the literature and report of a case. J Bone Joint Surg Am 1977;59(3):401–3.
9. P. Tos, S. Artiaco, A. Linari, B. Battiston, Chondrosarcoma in the distal phalanx of index finger: Clinical report and literature review, Chirurgiede la Main.2009;28(4):265-69. https://doi.org/10.1016/j.main.2009.02.002.
10. Van Laer SL, Vandendriessche A, Somville J, Van Schil PE. Unexpected diagnosis of multiple sclerosing pneumocytomas in a patient with chondrosarcoma of the hand. BMJ Case Rep. 2021 Jan 25;14(1):e238375. Doi: 10.1136/bcr-2020-238375. PMID: 33495182; PMCID: PMC7839896.
11. Stomeo, D., Tulli, A., Ziranu, A., Mariotti, F., and Maccauro, G. (2014). Chondrosarcoma of the Hand: A Literature Review. Journal of Cancer Therapy, 5, 403-409. doi: 10.4236/jct. 2014.54046.