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Malignant Cartilage Lesions of the Hand: When Enchondromas Go Bad

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Introduction

• Most cartilaginous lesions of the hand are small and benign and can be managed with observation or local curettage and grafting.
• Enchondromas are the most common bone tumor of the hand and can present with pain or pathologic fracture.
• Malignant transformation occurs at higher rates in patients with multiple enchondromas, but is rare in solitary lesions.
• The histology of chondrosarcoma mimics enchondroma.
• It is important to note the clinical presentation of potential malignant transformation of enchondromas.
• We present a case series of malignant cartilaginous tumors of the hand and describe their presentation and clinical course.

Case #1

• 90 year old male noted a slowly progressive, growing mass at the proximal phalanx of the little finger associated with decreased range of motion.
• Previously had small stable mass in the area for a number of years.
• Radiographs demonstrated an expansile mass with cortical disruption (Figure 1A).
• Magnetic resonance imaging (MRI) revealed a transcortical soft tissue mass (Figure 1B).
• Initial biopsy inconclusive for enchondroma vs low grade cartilaginous tumor.
• Treated with a 5th ray amputation, final pathology revealed chondrosarcoma (low grade).

Case #2

• 54 year old female presented with progressively enlarging mass of the right ring finger distal phalanx.
• Area became intermittently painful, and enlarging after remaining stable and painless for years.
• Radiographs revealed a luency with calcification within the distal phalanx (Figure 2A).
• MRI showed a periosteal reaction, cortical breakthrough and a soft tissue mass (Figure 2B).
• Treated with a mid-middle phalanx amputation.
• Pathology revealed low to intermediate grade chondrosarcoma.

Case #3

• 19 year old female with Ollier’s disease presented for follow up with increased pain and swelling of the index finger of the left hand.
• Worsening hand function due to enlarging lesion of the proximal phalanx.
• Radiographs showed a large lucent lesion without fracture or cortical disruption (Figure 3).
• Ray amputation performed due to dysfunction and growth index.
• Pathology revealed low grade chondrosarcoma.

Conclusion

• All 3 patients had malignant transformation of an enchondroma, only one patient having history of multiple enchondromas.
• All had progressive growth in a previously stable lesion and increasing pain related to the lesion.
• Common imaging findings included cortical irregularity and soft tissue mass.
• An enchondroma diagnosis necessitates follow-up especially when the clinical appearance or amount of pain is changing.
• Although rare, it is important to be aware of the signs of malignant transformation of benign cartilaginous lesions.

References