Sacral Chordoma: A Case Study

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Abstract

Chordomas are rare tumors of dysembryoplastic origin that differentiate from remnants of the notochord, an embryonic structure that typically disappears before birth. These tumors particularly localize to the sacrum and coccyx. The clinical evolution is slow, explaining the late diagnosis. Both computed tomography and magnetic resonance imaging are useful for diagnosis and staging. There are several anatomopathological forms. Treatment relies on surgery, with radiotherapy potentially being associated, particularly in infiltrating and inoperable forms. Recurrences can occur following optimal surgical treatment. Prognosis varies and depends on several factors.

Introduction

Chordomas are rare and aggressive primary malignant bone tumors [1]. Clinical symptoms typically manifest late, presenting as pain and radiculalgia [2]. En bloc resection surgery remains the treatment of choice. Surgical oncological treatment requires a wide-margin resection. Late diagnosis with a tumor infiltrating neighboring structures necessitates multidisciplinary therapeutic management involving both digestive and spinal surgeons. A combined abdominal and posterior approach is indicated. The abdominal approach facilitates control over pelvic vessels and organs to adhere to oncological principles, reducing sequelae and morbidity. New radiotherapy techniques enable tumor stabilization for up to five years in inoperable patients [3-6].

Observation

This concerns an 18-year-old female patient with no medical or surgical history who presented eight months after the onset of clinical symptoms characterized by progressively intensifying pain without associated neurological signs. Following a thorough clinical examination, standard radiographs, computed tomography, and magnetic resonance imaging were performed (Figure 1). This radiological assessment revealed a tumor located in the sacrum. The decision for surgical biopsy was made during a multidisciplinary consultation meeting. The histopathological study confirmed the presence of a chordoma. The surgical intervention involved en bloc oncological tumor resection (Figure 2).

Results

The operative sequences were simple without post-operative neurological disorders with skin healing after two weeks. The painful symptoms have completely disappeared. The patient is regularly followed up in consultation with clinical and radiological surveillance. At 2 years of follow-up, there is no local recurrence.
Discussion
Chordoma is a very rare malignant tumor, slow-growing, poorly understood, preferentially localized to the sacrum and spine. Chordomas were first characterized under the microscope by Virchow in 1857. It affects all age groups with a peak frequency around the 5th decade, however, our patient is young at 18 years old. Clinical diagnosis is often delayed. Definitive diagnosis is histological after biopsy. Various typical forms and chondroid and dedifferentiated variants are distinguished [5-10].
Complete surgical excision of the tumor with clear margins is currently the gold standard for operable sacral chordomas. Extralesional tumor excision is important as it remains the best prognostic factor for the risk of local recurrence and long-term survival. Complications mainly occur with proximal resections. Block surgery requires radical sacrifices; preserving S3 roots helps maintain genitourinary and sphincter
functions. Resection of S2 roots requires a definitive colostomy [11-16]. Survival varies according to series and depends on the quality of initial resection, with the evolution being mainly local. Very late relapses are possible and require lifelong MRI surveillance [17-18].

Conclusion
Chordoma is a slow-growing primary malignant bone tumor. Treatment for chordomas of the mobile spine and sacrum relies on en bloc excision with wide margins and postoperative external radiotherapy. Late recurrences are common even when tumor resection has been oncologically complete.

References