



## Case Report

### Chondrosarcoma of acetabulum - A case report.

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#### Abstract

Chondrosarcomas are the third most common primary malignant tumor of bone having cartilaginous differentiation with varying degrees of malignancy. These are common in older adults with slight male predominance, with common sites being pelvis along with femur and humerus. Chondrosarcoma is resistant to both chemotherapy and radiation, making wide local excision the only treatment. Local recurrence is frequently seen after intralesional excision, thus wide local excision is sometimes employed despite significant morbidity, even in low-grade lesions. Chondrosarcoma of acetabulum is a rare presentation and the aim of this case report is to present a case that is extremely rare in location and behavior but in accordance with the literature.

**Keywords:** chondrosarcoma, bone curettage, lytic lesion.

#### Introduction

Chondrosarcoma (CS) is primary malignant tumor with cartilaginous differentiation, first described in 1939 by Lichtenstein and Jaffe.<sup>1</sup>

According to the literature, chondrosarcoma constitute 20–27 % of primary malignant osseous neoplasm and is third most common neoplasm after osteosarcoma and myeloma.<sup>2</sup> The annual incidence of CS is estimated to be 0.2/100 000 in developed countries. Since its rare tumor true incidence is difficult to estimate. commonly seen in 40 -50 years of age group with male predilection.<sup>3</sup>

In majority of cases, the tumor arises from metaphyseal surface of long bone especially proximal humerus, femur, scapula, femur, pelvis, ribs.

The most common site is pelvis and has poor prognosis due to the proximity of tumor to internal organs and neurovascular structures.<sup>4</sup>

On the basis of mitosis, cellular atypia, cellularity, CS is histo-pathologically differentiated into grade 1 as low-grade chondrosarcoma (LGCS), grade 2 and grade 3 as high-grade chondrosarcoma (HGCS).<sup>5</sup>

Plain radiograph is initial imaging modality for evaluation followed by computed tomography and magnetic resonance sonography. Classic and commonly encountered finding includes cortical destruction, punctate, ring-and-arc and linear calcification, soft-tissue mass, lobulated border, high signal intensity with low signal septa on T2-weighted image, peritumoral edema, hip joint infiltration, peripheral and septal enhancement on post-enhanced MR image

Wide surgical excision is the only treatment for cure at present because CS is chemo resistant and

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radio resistant. With advancement in imaging and surgical techniques, limb-salvage procedures are considered as a viable surgical modality. <sup>6</sup> Local recurrence is most commonly reported with pelvic involvement than extremities.

According to literature, Increase 5-year survival rates from approximately 50% in the year 1970, to the range of 75–80%, presently, in the adolescent age-group is achieved with multimodal strategy.<sup>7</sup> Prognosis of the Chondrosarcoma depends on the grade and staging of the tumor.

### Case Report

A 38yr old female patient presented to Orthopedics OPD attached to Sri Devaraj Urs medical college, Kolar with c/o of pain in the hip for 1month, which was insidious onset, dull aching and progressive, aggravated during morning and interfering with activities of daily living. No h/o trauma, fever, chronic cough, or loss of weight . On examination there was tenderness over anterior hip joint line with normal hip range of movements. Patients underwent pre-operative imaging in the form of X-ray, Computed Tomography (CT) scan and Magnetic Resonance Imaging (MRI). These imaging techniques mainly revealed osteolytic destruction. Biopsy showed low grade chondrosarcoma.

After confirmation of the tumour diagnosis by imaging and pathology patient underwent bone curettage and bone graft placement for right acetabulum under GA .Histopathology confirmed with chondrosarcoma grade I .After 1 month post operatively, the patient have no complain of pain, and can ambulatory full weight bearing with no crutches or walker .patient is being followed at regular intervals with no signs of recurrence till date.



Figure 1: plain radiography of pelvis with bilateral hip at the time of presentation.

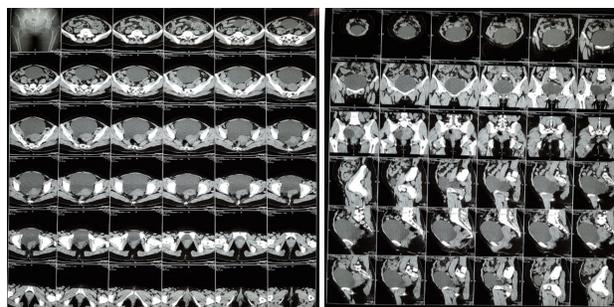


Figure 2: computed tomography of pelvis 2a. Axial view 2b. Sagittal view showing osteolytic lesion over right side pelvis.

### Discussion

Surgical excision in specifically biopsy diagnosed -grade I chondrosarcoma is challenging and controversial in majority of patients. Incorrect diagnosis, inadequate excision and lack of effective adjuvants therapy contributes to the poor outcomes. Histological grading and biological behavior based on radiography can be misleading. Therefore, the result of curettage remains unpredictable.

Ozaki et al.<sup>8</sup> conducted study on 18 patients to analyse the adequacy of intralesional vs en block excision in low grade chondrosarcoma of the pelvis. The author concluded intralesional management of chondrosarcoma was inadequate and is associated with the risk of late local recurrences.

Non-operative treatment with regard to chondrosarcoma is controversial since it's a chemoresistant as well as radio resistant tumour. Primary resistance to chemotherapy and radiotherapy is attributes to its poor vascularity and abundant extracellular matrix. Moreover, overexpression of antiapoptotic proteins Bcl-2, Bcl-xL, and X-linked inhibitor of apoptosis protein are responsible for its radio resistance nature. Overexpression the expression of P-glycoprotein is one for the most important factor responsible for its chemo resistant nature. <sup>9,10</sup>

Differential diagnosis of osteolytic lesion in para-acetabulum includes eosinophilic granuloma, Ewing sarcoma, osteosarcoma. Patients age plays an important role in diagnosis. Eosinophilic granuloma occurs in 5 -15 years group, and it is often detected on bone sclerosis in surrounding zones and well-defined sclerotic margin with iliac lesions.<sup>[11]</sup> Ewing sarcoma is most commonly encountered children and adolescents. Sclerotic components are most frequent in the intraosseous component, while cortical thickening,

## Prabhu Ethiraj et al. Chondrosarcoma of acetabulum

pathologic fracture, expansile bone remodeling, soft-tissue calcification, well-margined lesion are not commonly observed in Ewing sarcoma of pelvis.<sup>12</sup>

Osteosarcoma often occurs in adolescents and young adults; osteoid matrix formation and aggressive nature are the characteristic features.<sup>13</sup>

In our patient, bony curettage and bone graft placement was performed incorporating clear resection margins were obtained and she has been cancer free for the past one year. Patient pain improved symptomatically and functional range of motion improved compared to initial days of admission. Recovery was smooth up till date and need to evaluate in future for recurrence.

In conclusion, this report is intended to bring into light the functional and oncological outcomes following curettage and bone graft in biopsy diagnosed grade I chondrosarcoma of acetabulum.

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