International Surgery Journal
Paul N et al. Int Surg J. 2025 Oct;12(10):1859-1862
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20253048

Case Report

A case report of sacral chordoma post-radiotherepy

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Received: 08 August 2025
Revised: 06 September 2025
Accepted: 11 September 2025

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ABSTRACT

Sacral chordoma is a tumor which is not commonly encountered even in experience of busy operating surgeon making it relatively rare tumor. This tumor being indolent in nature in early phase causes relatively no symptoms until advance stages. This case report presents a case of sacral chordoma in a 65 years old female coming with us for a swelling over buttocks and pain while sitting. Chordoma was confirmed on tissue biopsy and patient was planned for surgery. Debulking surgery of tumor was done and patient was discharged on post-operative day (POD) 8 with complete relief of symptoms.

Keywords: Sacral chordoma, Debulking

INTRODUCTION

Chordoma is a rare type of cancer that grows slowly but can become locally aggressive. It develops from remnants of the notochord, which is an embryonic structure, and makes up about 1–4% of all primary bone tumors. Because it progresses gradually and causes only mild symptoms in the early stages, especially when it occurs in the sacrum (the lower part of the spine), it often goes unnoticed until it reaches an advanced stage.[1]

Sacral chordomas are seen in about 50–60% among all cases of chordomas and are most commonly diagnosed in people in their 40s or 50s. The subtle and tolerable symptoms of this type of tumours frequently delay diagnosis, which makes surgical treatment more complicated by the time the tumour is discovered. Currently, there is limited evidence supporting long-term efficacy with respect to chemotherapy or radiation therapy for chordomas, and there are no widely accepted standardized treatment protocols exist. Surgical resection thus remains cornerstone of management, with en bloc resection technique being preferred approach wherever feasible. This approach helps in reducing the potential risk of local recurrence and may lower the chance of metastatic spread.[2]

CASE REPORT

A 65 years old female came with chief complains of swelling at buttock region for 1 and half years associated with pain while resting at sitting position for 6 months, lower back pain for 3 months, and difficulty in walking 3 months. Swelling was initially small in size then gradually progressed to attain current size. Due to size of swelling she was unable to sit on buttocks for more than 5 minutes experiencing pain. She had lower back pain mostly during walking for 3 months which resolved once she stood tall for some time.

No history of bowel and bladder disturbance. No history of fever, sudden loss of weight or appetite. She is known case of hypertension on tablet Amlodipine 5 mg. She had received 4 cycles of radiotherapy 2 months back.

On examination under adequate exposure patient was examined in prone position, supine and standing position. On inspection skin over swelling and buttocks appear

tensed, dark pigmented with swelling present bilaterally over both buttocks of size 10×8 cm over right buttock and 10×7 cm over left buttock. Swelling was not movable side to side. Swelling does not reduce on raising the legs (Figure 1). On palpation swelling was hard in consistency with tenderness elicited over both buttocks swelling. Swelling was not movable side to side. No crepitus seen. On supine position per abdominal examination was done which revealed soft non tender abdomen with no palpable mass with normal bowel sounds.

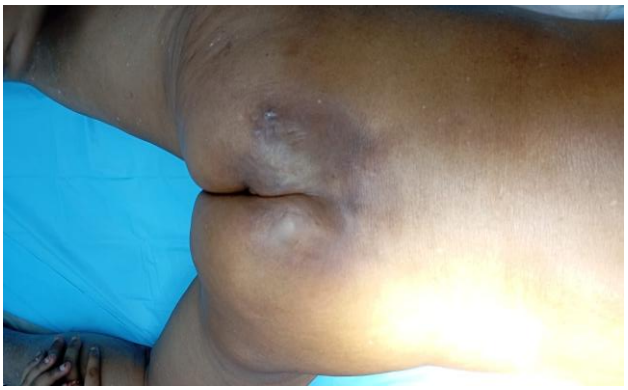


Figure 1: Bilateral mass over both buttocks.

Pigmentation of skin over buttocks suggesting changes due to radiation exposure.

Magnetic resonance imaging (MRI) of pelvis and abdomen was done to see extent of swelling and presence of any distant metastatic lesion. Other routine blood Investigations and imaging are also done to rule out distant metastasis. MRI abdomen and pelvis revealed mass over bilateral buttocks and also small mass in abdomen (Figures 2 and 3).

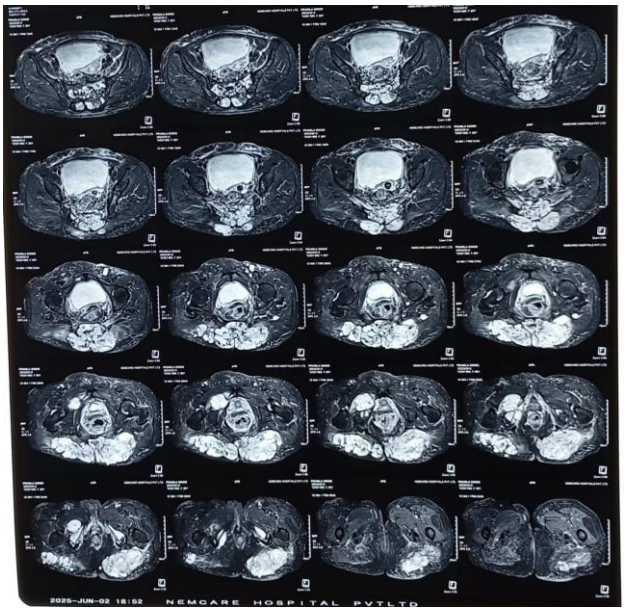


Figure 2: MRI pelvis showing mass over buttocks and small mass over pelvis.

Bilateral excision of mass was done from buttocks with separation from gluteal muscle done (Figure 4). Romovac negative suction drain was placed over both wound site. Skin is closed with skin stapler, and specimen was sent for histopathological examination HPE (Figure 6).

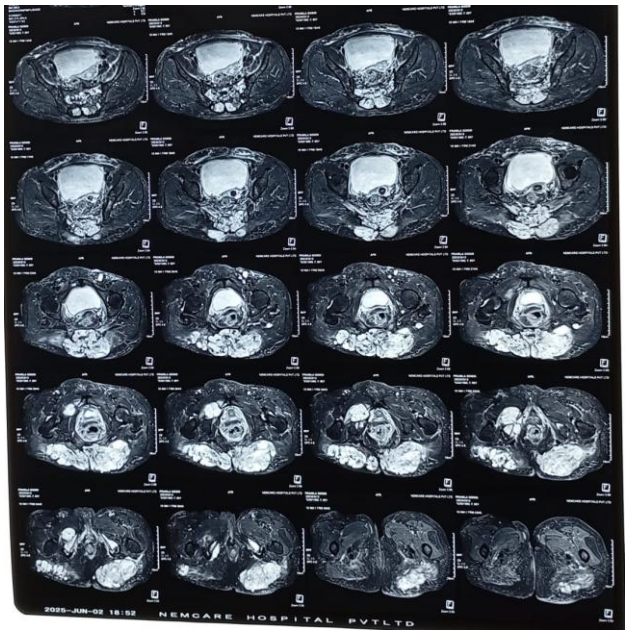


Figure 3: MRI image showing mass over buttocks.

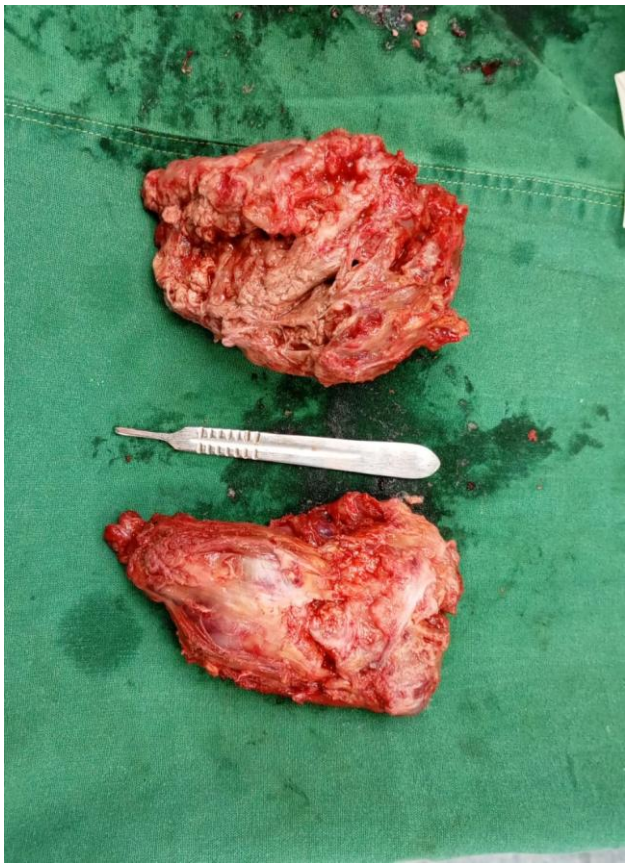


Figure 4: Resected specimen from bilateral buttocks.

After surgery drains had some serous collection which gradually decreased and drain were removed on post-operative day (POD) 5. Post-operative image is shown in Figure 5.

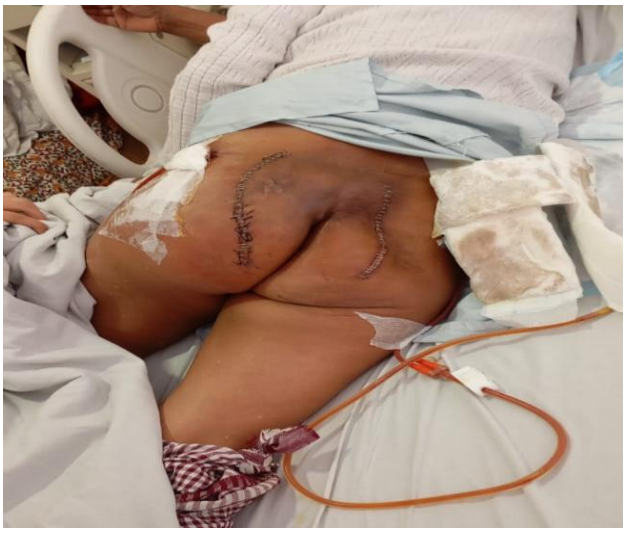
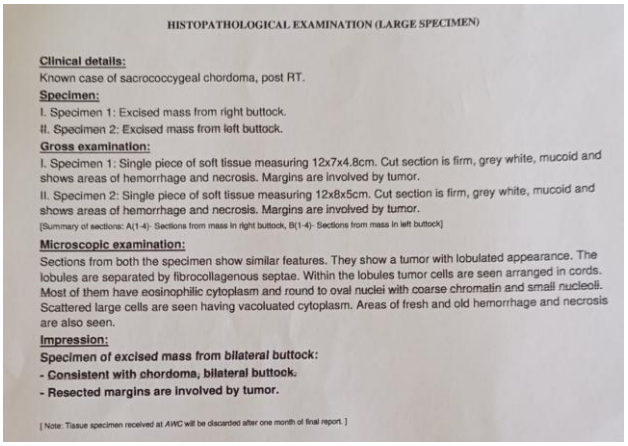


Figure 5: Post-operative of image of resected site.



HISTOPATHOLOGICAL EXAMINATION (LARGE SPECIMEN)

Clinical details:
Known case of sacrococcygeal chordoma, post RT.

Specimen:
I. Specimen 1: Excised mass from right buttock.
II. Specimen 2: Excised mass from left buttock.

Gross examination:
I. Specimen 1: Single piece of soft tissue measuring 12x7x4.8cm. Cut section is firm, grey white, mucoid and shows areas of hemorrhage and necrosis. Margins are involved by tumor.
II. Specimen 2: Single piece of soft tissue measuring 12x8x5cm. Cut section is firm, grey white, mucoid and shows areas of hemorrhage and necrosis. Margins are involved by tumor.
[Summary of sections: A(1-4)- Sections from mass in right buttock, B(1-4)- Sections from mass in left buttock]

Microscopic examination:
Sections from both the specimen show similar features. They show a tumor with lobulated appearance. The lobules are separated by fibrocollagenous septae. Within the lobules tumor cells are seen arranged in cords. Most of them have eosinophilic cytoplasm and round to oval nuclei with coarse chromatin and small nucleoli. Scattered large cells are seen having vacoluated cytoplasm. Areas of fresh and old hemorrhage and necrosis are also seen.

Impression:
Specimen of excised mass from bilateral buttock:
- Consistent with chordoma, bilateral buttock.
- Resected margins are involved by tumor.

[Note: Tissue specimen received at AWC will be discarded after one month of final report.]

Figure 6: HPE report.

Specimens were sent for histopathological examination which is consistent with chordoma. Margins are positive in the specimen but a debulking excision of the tumor was possible. Patient had a symptomatically relief of symptoms and reduced pain and was able to sit almost pain free on POD 6.

Patient was discharged on POD 9 stapler clip removal was done 20 days after surgery was followed up till 6 months with no further progression of disease.

DISCUSSION

Chordoma is a rare and poorly understood malignancy that progresses slowly, most commonly arising in the sacrum and spine. While it can occur across all age groups, it is most frequently diagnosed in individuals in their fifth decade of life. Because of its gradual onset and subtle symptoms, the diagnosis is often delayed, sometimes until the tumour has reached an advanced stage.[3]

In our case, the patient presented late with complaints of pain, despite having such noticeable swelling for an extended period.

Symptoms such as pain, especially when paired with neurological signs like paraesthesia, urinary or bowel dysfunction, and weakness in the lower limbs, should be considered warning signs that warrant thorough investigation for possible serious underlying conditions. It was observed that many patients do undergo extensive evaluation to rule out other causes before a diagnosis of chordoma is established.[4]

Unlike many cases, our patient did not report neurological deficits but experienced difficulty walking for the past three months. To confirm the diagnosis, we performed MRI imaging of the abdomen and pelvis, along with histopathological examination of a tissue biopsy. The MRI revealed a mass in the pelvic region extending toward the buttocks, and the tissue biopsy confirmed the presence of chordoma before surgery.

Managing sacral chordoma is a complex clinical challenge that demands a multidisciplinary approach and careful planning from the outset. Surgical intervention offers the best chance for long-term disease control, but it is associated with significant risks, including functional impairment and postoperative complications. Complete tumour removal, or en bloc resection, is recommended whenever possible to minimize the chances of recurrence and metastasis.[5]

In this case, we aimed for an R0 resection. However, the patient had previously undergone radiotherapy at another centre before presenting to us. Intraoperative, we encountered significant fibrosis and calcification, which complicated the surgical dissection. To preserve the function of both lower limbs, we deliberately have to leave behind a small margin near critical structures. Despite this, the patient achieved full recovery with the ability to walk without pain and sit comfortably. At six months of follow-up, there was no evidence of recurrence.

A review of sacral chordoma management highlights that wide-margin sacrectomy remains the standard treatment. However, such procedures often require sacrificing adjacent nerve roots, muscles, and ligaments, which can thus result in substantial functional deficits and mechanical instability, ultimately impacting long-term outcomes.[6]

CONCLUSION

Sacral chordoma is a rare case to be seen in our daily practice and diagnosis of this case can be made with help of imaging and tissue biopsy. Surgery is the mainstay of treatment for excision of tumor and to preserve the

functionality of patient also arises as important factor overall. Follow up the case is also essential although being slow growing.

ACKNOWLEDGEMENTS

Authors would like to thank Department of Oncosurgery at Nemcare Hospital and Department of General Surgery, Nemcare Hospital.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Paul N, Hazarika S. A case report of sacral chordoma post-radiotherepy. Int Surg J 2025;12:1859-62.