EN-BLOCK SACRECTOMY BY COMBINED ANTERIOR AND POSTERIOR APPROACH FOR SACRAL CHORDOMA

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Disclosures

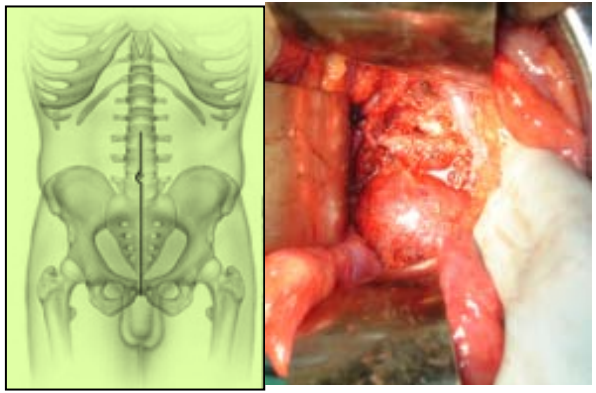
- Naresh-Babu J:
  - No potential conflict of interest
- Srinivas J:
  - No potential conflict of interest
- Swamy C V
  - No potential conflict of interest

- Sacral tumors are relatively rare, and experience related to resection of these tumors is therefore limited.
- Although radical resection with intact tumor capsule with “no touch” technique prolongs the disease-free survival period, surgical management necessitates sacrectomy and if the tumour involves S1 and reconstruction is required.
- We present three cases of sacrectomy performed through a single stage anterior and posterior approach.

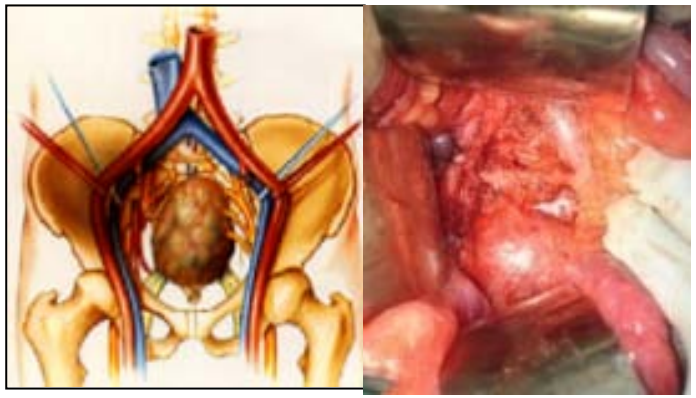
- Three patients with sacral chordoma who underwent sacrectomy were included.
- All were males and presented with perisacal pain.
- Of which, a 54-year-old man presented with sacral pain and loss of bowel and bladder function.
- CT and MRI evaluation was done in all patients. One patient underwent percutaneous S1 transpedicular biopsy.
- Total sacrectomy was done in one patient and sacal amputation below S2 was done in two patients.
- Spine pelvic stabilization was done when S1 was excised.

Radiograph Showing lytic lesions in the sacrum involving S1, 2, 3segments .3D recon CT showing multiple punched out lesions involving sacrum. T2 weighted sagittal MR image showing hyperintense solid encapsulated tumor indenting the rectum anteriorly and infiltrating the soft tissue posteriorly. Spinal canal encroachment and cauda equina compression is noted.

Transperitoneal abdominal approach:



Through laporotomy, tumour is identified and rectum is mobilized off the tumor capsule.



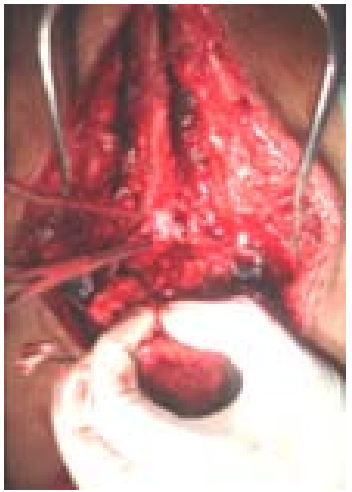
Internal iliac, middle sacral arteries and veins were ligated along with prominent tumor vessels to control the bleeding.

Bilateral partial anterior sacroiliac osteotomy was performed using a chisel and L5–S1 annulotomy and discectomy was done.

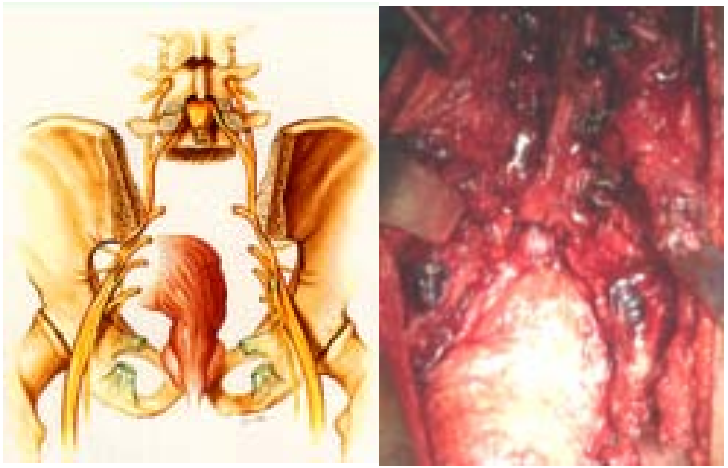
Posterior Approach

Through a vertical midline incision over lumbar spine which was curved over tumour to include skin containing previous biopsy tract.

Pedicle screws were inserted bilaterally from L3 to L5 and posterior iliac crest exposed bilaterally.



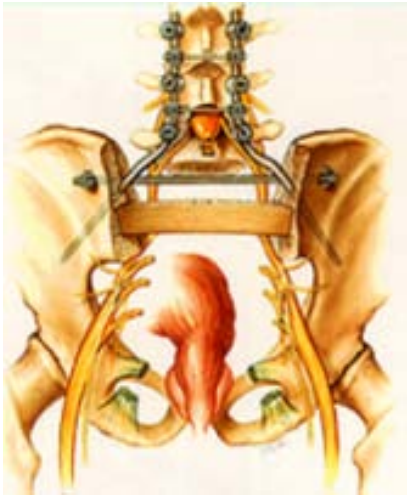
L-5 and subtotal S-1 laminectomy was done to expose thecal sac which was closed using a double layer of sutures below S1 roots and cut. The remaining disc of L5–S1 is removed completely

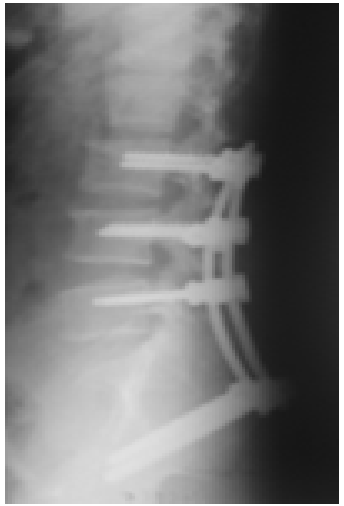


Sacroiliac joints were osteotomised bilaterally. The caudal border of the specimen is freed by division of the anococcygeal ligament.

The entire sacrum along with tumor and the skin containing biopsy tract was then excised en bloc. Violation of the tumor capsule was avoided at all stages.

Spinopelvic fixation:





Posterior superior iliac spine was osteotomised to make it level to the sacrum. 8 x 70 mm iliac screws in to the ilium bilaterally and connected to the lumbar spine by contoured rods. Spino-pelvic fusion was done with local bone grafts

Results

- All patients tolerated the procedure well.
- Total blood loss was 900 (+/-150 ml) which happened mostly during posterior approach.
- There was no incidence of recurrence at 2 years.
- One patient had severe ileus for one week.
- Bowel and bladder incontinence persisted in one patient.
- All were able to ambulate but complained of severe numbness of posterior aspect of leg.
- Anterior wound healed well in all patients but the posterior wound gaped in one which required negative pressure dressings and secondary sutures.

CONCLUSION

- Single stage combined anterior and posterior approach allows safe enbloc excision of sacral tumours.
- The anterior approach improves the surgeon's ability to dissect the tumor accurately from the rectum and to gain control of the vessels and enable a safer posterior sacrectomy.