



Case Report:

Sacral Chordoma and Single Stage Combined Anteroposterior High Sacrectomy.

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Abstract: Chordomas are locally aggressive tumors, most commonly seen in sacrum. We present a case of sacral chordoma who presented with urinary retention and treated with single stage combined anteroposterior high sacrectomy.

Key Words: Chordoma; Urinary retention; Anteroposterior High Sacrectomy

Introduction:

Chordomas are locally aggressive tumors with less chance of metastatic potential and high chance of local recurrence. The tumor is restricted to spine and most commonly occurs in sacrum(50%), followed by base of skull(35%) and other parts of spine(15%).(1) The risk of morbidity following sacrectomy is high in the form of neurological dysfunction like lower extremity weakness, sensory abnormalities, bowel and bladder dysfunction and wound complications. The risk of bleeding is high and various techniques like preoperative embolization, ligation of internal iliac arteries were described to decrease blood loss. There are only few cases reported in literature to the best of our knowledge who presented with urinary retention.

Case Report

A 51 years old male presented with low back ache and tingling sensation radiating to both lower limbs, presented with urinary retention. On examination there was no swelling felt over the sacral region but digital rectal examination showed firm to hard bony mass felt over the sacrum with free rectal mucosa, normal anal tone and no perianal anaesthesia. Radiograph of lumbosacral spine showed loss of lordosis with osteophytes and osteolytic lesion involving sacrum with specks of calcification. A contrast enhanced computer tomography showed a 6.5x3.5x3.5 cms lytic lesion with destruction of S2,3,4 and 5 segments with calcification, displacing rectum anteriorly and with normal sacroiliac joints. An image guided trucut biopsy confirmed the diagnosis of Chordoma.

Operative Technique:

Initially patient was placed in supine position, lower abdominal midline incision given and abdomen opened in layers. Rectum mobilised posteriorly after dividing the peritoneal layer till levator ani muscles. Bilateral internal iliac arteries were isolated and ligated. Anterior osteotomy was performed at the level of S1 and S2 performed with chisel. Later skin of the abdominal wall was closed directly, dressing done and patient positioned in Kraske's position. Midline incision placed over the sacral spine, flaps raised along with gluteus muscle after dividing its attachments from sacrum. Sacrotuberous ligaments followed by sacrospinous ligaments and piriformis muscle were divided. Sacrum is divided below S2 sacral foramen preserving bilateral S2 nerve (Fig.1). Wound was closed primarily by approximating the gluteus muscle based flaps. Later patient turned supine a pelvic drain placed and abdomen closed. There was 500ml of blood loss during the procedure and the operative time was 5 hours. Postoperative course was uneventful, there was no wound related complications. There was no motor deficit, but he had saddle anaesthesia. Patient was able to walk within a week and was discharged on 10th postoperative day.

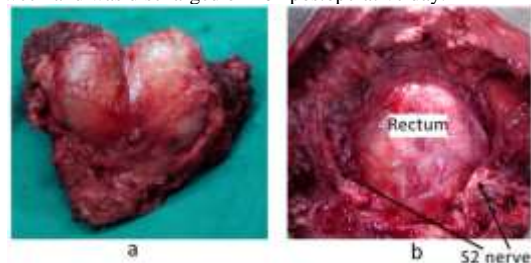


Fig. 1: (a) High sacral excision- Tumor covered by periosteum and presacral fascia (b) Bilateral S2 nerves preserved with Rectum seen covered by endopelvic fascia

Discussion:

Sacral chordomas rarely present with urinary dysfunction.(2) Sacral tumours are a complex surgery and significant amount of postoperative complications. Resection of sacral tumors is classified as midline or lateral depending on the site of lesion (Table 1). Midline resections were further classified based on the level of nerve roots sacrificed as low, middle, high, total and hemisectomy. We preferred dividing sacrum with chisel as the line of division along sacroiliac joint is curved and it may be difficult to perform with Gigle saw. Flap closure may be needed in patients with large defects especially when tumor is placed posteriorly to decrease wound complications but may be associated with prolonged hospital stay.

Type of sacrectomy	Level of Transection	Skeletal Reconstruction	Soft tissue Reconstruction
Low	≤S-3	None	Not required
High	≤S-2 or unilateral S1	None	Flap may be required
Total	Total sacrectomy	Required	Flap may be required
Hemicorpectomy	Through lumbar vertebrae	None	Flap may be required

Conclusion:

Sacrectomy can be performed as a single stage procedure with satisfactory outcome and bilateral internal iliac artery ligation prior to resection may decrease perioperative blood loss and operative time.

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