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Sacral Schwannoma found incidentally – report of a case

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Rezumat

Schwanom sacrat descoperit incidental - prezentare de caz

Schwanomul sacrat este o tumoră rară retrorectilă la adulți. Deficitul neurologic sacrat postoperator este dificil de evitat. Nu există un consens asupra celor mai bune opțiuni de tratament. Prezentăm cazul unui pacient de 33 ani cu disconfort atipic în abdomenul inferior și fără acuze neurologice care a fost diagnosticat cu o masă abdominală pelvină la ecografia abdominală. CT, RMN și MSCT au decelat o masă presacrată neomogenă care implică foramen S1 sacrală dreaptă. Deși nu au existat acuze neurologice, EMG și ENG au arătat leziuni cronice minore a rădăcinii L5 bilateral, mai mult pe partea dreaptă, afectând fibrele pentru mușchii scurți ai piciorului. Am tratat acest pacient excizând tumora în totalitate fără chiuretaje suplimentare. Nu s-a folosit radioterapia și funcțiile neurologice postoperatorii au fost conservate.

Cuvinte cheie: sacru, schwanom, chirurgie

Abstract

Sacral schwannoma is a rare retrorectal tumor in adults. Postoperative sacral neurological deficit is difficult to avoid. Currently, there is no established consensus regarding best treatment options. We present a case of a 33 years old patient with atypical discomfort in lower abdomen and no neurological complaints who was diagnosed with a pelvic mass by abdominal ultrasound. CT, MRI and MSCT showed an inhomogeneous presacral mass involving right S1 sacral foramen. Although there were no neurological complaints, EMG and ENG showed a minor chronic lesion of L5 root bilaterally, more on the right side, affecting the fibers to the small muscles of the feet. We treated this patient with total extirpation of the mass without additional curretage. No radiotherapy was applied and postoperative neurological functions were preserved.

Key words: sacrum, schwannoma, neurilemomma, surgery

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Introduction

Schwannoma is a benign neoplasm of schwann cell, arising along sensory nerve roots in the extremities and upper thorax. These tumors rarely arise within bone, among which mandible and sacrum are the most common sites of involvement. Only 79 intraosseous schwannomas have been reported in English literature and 21 were located at the sacrum (1). We report a case of sacral schwannoma treated by surgery alone due to the benign condition of the tumor. The diagnostic procedures and radiographic findings are presented.

Case report

A male patient, 33 years old, was submitted to abdominal ultrasound due to a mild abdominal discomfort. Heterogeneous

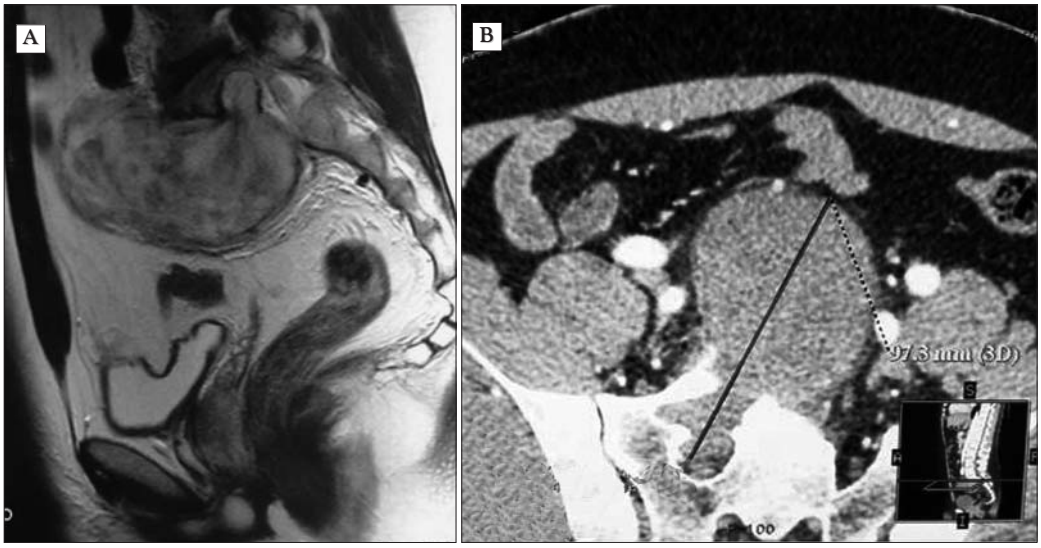

Figure 1. *(A,B) Showing retroperitoneal mass on the right side arising from and destroying S1 foramen, with adherence to and dislocation of the adequate nerve root of the sacral plexus*

solid mass was found in the lesser pelvis. CT scan showed a non homogeneous, soft tissue tumor with posterior destruction of the sacral bone and distal propagation to the urinary bladder without infiltration. MRI described the soft tissue tumor as a dominantly retroperitoneal mass on the right side arising from and destroying S1 foramen, with adherence to and dislocation of the adequate nerve root of the sacral plexus. It showed no propagation into the spinal canal, as well as good vascularisation and clear borders in relation to the iliac blood vessels. MSCT confirmed these findings. (Fig. 1A, 1B)

EMG and ENG showed a minor chronic lesion of L5 root bilaterally, more on the right side, affecting the fibers to the small muscles of the feet. Before the surgery orthopedic surgeons excluded the need for lumbo-sacral spinal stabilization.

We approached the tumor by midline laparotomy. Operative exploration revealed a solid mass arising from the right S1 foramen, filling the posterior part of the pelvis all the way to the aortic bifurcation, dislocating the rectum and the sacral nerves anteriorly. With the consultation of a neurosurgeon, the capsule was incised longitudinally and the whole mass was completely excised together with the satellite tumor arising from the S1 foramen, without curretage. (Fig. 2)

Haemostasis was achieved by patching materials (Lyostip, Beriplast and Lyodura). Neither postoperative hemorrhage nor leakage of CSF was seen. The tumor was of a dumbbell shape and on transsection revealed nonhomogenous yellowish tissue.

Pathology finding revealed that the tumor was made of spindle-cells with relatively uniform proliferation without epitheloid formations. Immunohistochemistry confirmed a schwannoma without malignant potential and no vascular or local invasion.

Two months after the surgery, the patient had normal sexual and urinary functions, without any complaints.

Discussion

A synonym for schwannoma is neurilemomma. It can sometimes be malignant, but the ones localised in the pelvis are usually benign. This kind of tumor rarely occurs within bony structures and only 21 cases were published in English literature (1). Most of the cases were treated by curettage and overall results were favorable due to preservation of sacral nerve roots (1–14). However, the rate of local recurrence was reported to be relatively high (54 percent) when treated by conservative means. Abernathey et al. suggested wide excision of sacral schwannoma to prevent tumor recurrence (6). Many authors reported that sacral amputation and lumbopelvic fixation allowed total removal of sacral schwannoma (4, 6–14). Patients who were treated with sacral amputation had greater chance of having postoperative bowel and bladder dysfunction, in addition to decreased sensation and motor weakness of lower extremities due to sacral nerve roots injury. Excision of the tumor might cause extensive blood loss from combined

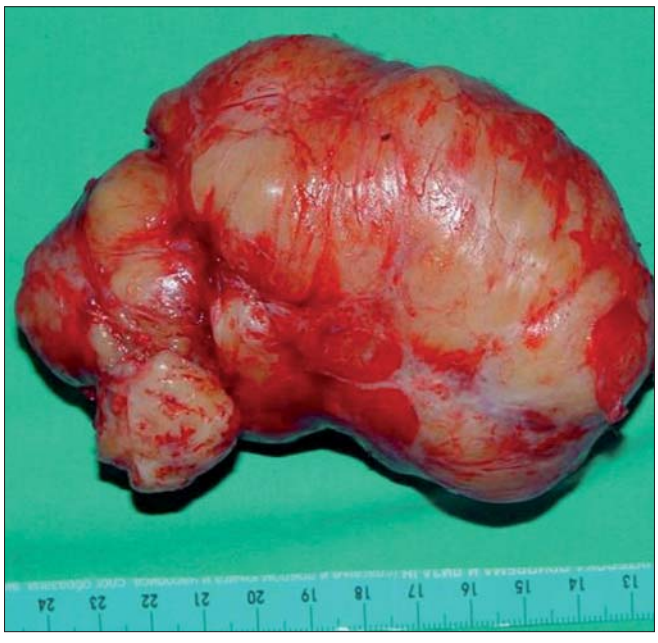

Figure 2. *Showing the specimen*

anterior and posterior approaches. Special surgical technique and instrumentation is required to maintain spinal stability. There were attempts to minimize such complications by laparoscopic or gamma knife surgery, but the results are still in the study periods and only a limited number of cases were included (15–19).

Some authors suggested radiotherapy, but its role remained controversial. Kotoura et al. presented one case that was treated with intralesional curettage and adjuvant radiation therapy with an attempt to preserve nerve roots as much as possible (20). Five year follow - up by plain radiograph and CT scan showed arrest of the tumor with marginal sclerosis. On the other hand, Feldenzer et al. reported a tumor that did not respond at all (21). Probably in case of very large tumors with neurological deficits or in a case of malignant alteration, radiotherapy can be used as the first line of treatment. However, in the reported case, we presumed that it could make more damage and could cause secondary carcinogenesis (22). It has been reported that cases of giant cell tumor at the lumbosacral area can be controlled by radiotherapy (23–25).

Conclusion

Although this rare tumor, as described, does not occur in pelvic so often, especially not without significant neurological deficits, it can, however, be diagnosed incidentally. In the presented case, a plane surgical approach of complete extirpation, without additional curettage provided good results in preserving function as well as minimal bleeding. We believe that initial treatment with radio or chemotherapy is not necessary, and it should be reserved in cases of recurrent disease in order to preserve the quality of life.

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