Case Report

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Presacral schwannoma resected via anterior trans peritoneal approach: a case report

Abstract

Presacral tumors are rare with neurogenic tumors being even rarer with only case report and short case series being reported in literature. Most of these tumors remain asymptomatic till they reach size large enough to cause pressure symptoms. Magnetic resonance imaging (MRI) of the pelvis is the most preferred imaging modality for preoperative diagnosis as well treatment planning. Complete surgical resection is the treatment of choice for these rare tumors. Approach to surgical resection depends on the type of the tumour. After complete excision of the tumor, recurrence is rare. Up to 10-50% recurrence has been reported in literature after incomplete resections. Adjuvant treatment is not recommended even in incomplete resections or recurrences. We are presenting a case of type 3 presacral schwannoma treated by open, anterior, trans peritoneal approach.

Keywords: presacral schwannoma, neurogenic tumors, anterior transperitoneal approach

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Abbreviations: CECT, contrast enhanced computed tomography; MRI, magnetic resonance imaging; CT, computed tomography

Introduction

Schwannomas are the most common types of peripheral nerve neoplasms arising from the Schwann cells of the neural sheath. Although they may occur in any part of the body, only 6% are found in the presacral area.[1] Exact incidence is difficult to estimate since majority of these remain asymptomatic. Because of the location these tumors can grow to very large size before being diagnosed. These tumors offer significant surgical challenge because of the narrow working space available and proximity to the vital structures including external iliac vessels as well as ureter. In addition, abundant vascularity of the presacral plexus of vessels can lead to significant blood loss. Accurate delineation of the type of the tumor on preoperative imaging studies is essential to determine the appropriate approach for these rare tumors. We are presenting a case of presacral schwannoma resected via an open, intraperitoneal approach.

Case report

A 40year old gentleman presented with pain in the lower abdomen of 1 year duration. On evaluation with contrast enhanced computed tomography of abdomen (CECT), a soft tissue mass of size 10 x 8 x 6 cm was detected in the presacral area. A Magnetic resonance imaging (MRI) of the pelvis confirmed it as dumb-bell shaped tumor with no intra spinal extension representing a nerve sheath tumour (Figure 1a). Intra operatively, right ureter was mobilized first and the tumor was dissected from right external iliac artery and vein. Tumor was then separated from the sacrum by sharp and blunt dissection. Excision of the tumor was completed after clipping the 5th lumbar nerve root on the right side (Figure 1b). Duration of the surgery was 100 minutes and there was 100 ml of blood loss. Post operative course was uneventful and he was discharged on 4th post operative day. Histopathological examination of the resected tumor confirmed it as a benign schwannoma (Figure 1c).

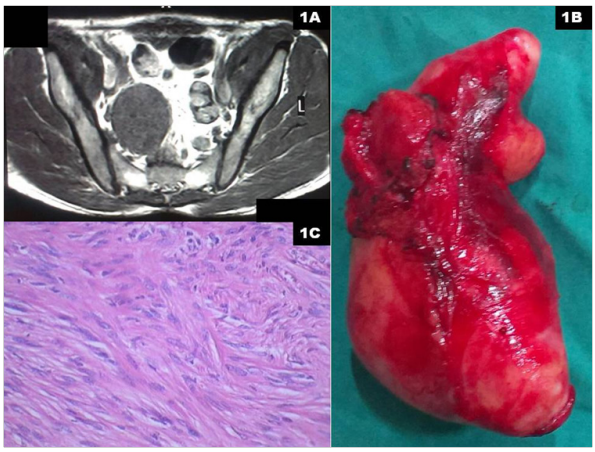

Figure 1A MRI pelvis, axial section showing soft tissue mass arising in the presacral area with no obvious intra spinous extension.

Figure 1B Gross picture of specimen of the presacral tumor resected.

Figure 1C Spindle cell tumor with indented wavy nuclei revealing focal palisade.

Discussion

Presacral schwannomas are rare accounting for 1-5% of spinal schwannomas.[2-4] Less than 30 cases of presacral schwannoma have been reported in English literature.[5] Klimo et al.[6] classified these tumors into 3 categories: Type 1 tumors are confined to the sacrum. Type 2 tumors originate within the sacrum but erode the wall of the sacrum and extend into the adjacent spaces. Type 3 tumors are located predominantly in the presacral or retro peritoneal area.[6]

Most of these tumors remain asymptomatic and are detected incidentally during imaging studies done for nonspecific symptoms. Because of their slow growing nature and their location in the presacral fossa they can reach very large size while being asymptomatic and

can even erode the sacrum. MRI is more specific than computed tomography (CT) of the pelvis as it can better delineate the tumor as well as its relationship with surrounding structures including intra spinous extension.[7]

Complete surgical resection remains the treatment of choice. In general posterior approach is preferable for type 1 tumors; anterior approach is preferable for type 3 tumors and combined anterior and posterior approach is preferable for posterior approach is preferable for type 1 tumors.[8] Anterior approach may be either trans peritoneal or extra peritoneal. Majority of the previous reports have reported trans peritoneal approach although extra peritoneal approach has also been reported by few authors.[9,10] The present patient had type 3 tumor and hence was resected via anterior trans peritoneal approach.

Conclusion

Presacral schwannoma are rare nerve sheath tumors. MRI is the most preferred imaging modality. Complete surgical resection can be performed safely via anterior transabdominal approach.

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Conflicts of interest

Author declares there are no conflicts of interest.

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