

A NEW SURGICAL TECHNIQUE IN EN BLOC RESECTION OF A COSTOVERTEBRAL CORNER CHONDROSARCOMA

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We operated a male patient, 47 years old, who had a costovertebral corner chondrosarcoma between the sixth, seventh, and eighth thoracic vertebrae, which attacks the left lateral bodies, pedicles and laminae of the above mentioned vertebrae, with a new technique.

We totally resected the 1/3 left lateral bodies, laminae, pedicles and costae between the levels of 5 to 9 with safe surgical and pathological margins. After two weeks, we performed a posterior fusion with CD Instrumentation. After a follow-up of two years, the patient has no evidence of disease (NED).

Key Words: Chondrosarcoma, en bloc resection, costovertebral corner.

INTRODUCTION

Among the primary malignant tumors of the vertebral column, chondrosarcoma is a rarely encountered entity (1, 3). En bloc excision is the preferred treatment modality like in other malignant conditions (1, 2, 3, 4). However, in most instances, en bloc excision is not possible due to spinal anatomy and the presence of the spinal cord. Chemotherapy has no benefit, while the role of radiotherapy is controversial (3). En bloc excision, when carefully planned and performed, is highly effective. Hereby we present a new surgical technique for en bloc excision of a chondrosarcoma located in the costovertebral region, together with its two-year follow-up.

CASE REPORT

40 year-old patient presented with a chondrosarcoma located at the left T6-7-8 costovertebral junctions. CT evaluation revealed expansion to the vertebral body, pedicle and left lamina.

SURGICAL TECHNIQUE

The patient is placed in the right lateral decubitus position. Thoracotomy was performed on T5, above the upper limits of the tumor. A second thoracotomy from within the thoracic cavity was done at the level of the 9th rib, which was the first unattacked area below the 8th rib. Segmentary arteries were ligated and the aorta prepared. Left laminotomy with excision of the costovertebral junctions between the two thoracotomies was done, followed by an osteotomy connecting the most proximal and distal laminotomies through the

spinous processes. The lamina was lifted en bloc, 6th, 7th and 8th nerves ligated and en bloc resection with a chisel placed from the posterior to the anterior side was added. Thoracic wall was closed over a teflon mesh. The patient was monitored in the intensive care unit postoperatively. Two weeks later, posterior stabilization with CD instrumentation and fusion on the right side was performed. Follow-up examination in two years did not reveal local recurrence.

DISCUSSION

Vertebral chondrosarcoma is more common than the Ewing sarcoma and the osteosarcoma of the vertebral column (1, 2, 3, 4). Peak incidence is in the second decade in the skeletal system in general, while it is 40-45 years in vertebral column (3).

Pain is the leading symptom in malignant conditions of spinal column. Spinal instability, deformity and neurologic complications constitute the others. In therapeutic planning, (1) tumor behaviour, (2) anatomic localization and extent of involvement, (3) radiosensitivity and (4) life expectancy should be taken into consideration.

Aim of therapy is to relieve pain, prevent neurological complications and restore vertebral stability. Extensive and sufficient en bloc excision followed by stabilization is the mainstay of therapy.

Plain roentgenograms, CT and MRI evaluations and sometimes, in order to evaluate the extent and vascularity of the tumour, angiography are necessary (1, 3). Recurrence is inevitable when en bloc excision cannot be achieved. Using a new surgical technique, we excised the tumorous mass located at the costovertebral junction, extending to both the body and the posterior element. Surgical margins of the excised mass revealed

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