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Image Report

Adult-onset giant mediastinal neuroblastoma

Ali Alkhaibary[1,2,3], Mohammed Abdulrazaq Alharbi[4], Sami Khairy[1,2,3]

[1]College of Medicine, King Saud bin Abdulaziz University for Health Sciences, [2]King Abdullah International Medical Research Center, [3]Division of Neurosurgery, Department of Surgery, King Abdulaziz Medical City, Ministry of National Guard - Health Affairs, [4]Department of Pathology and Laboratory Medicine, King Abdulaziz Medical City, Ministry of National Guard - Health Affairs, Riyadh, Saudi Arabia.

E-mail: *Ali Alkhaibary - AlkhaibaryA@hotmail.com; Mohammed Abdulrazaq Alharbi - m.harbi1993@gmail.com; Sami Khairy - Drsami2009@hotmail.com

***Corresponding author:**
Ali Alkhaibary,
College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

alkhaibarya@hotmail.com

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ABSTRACT

Background: Neuroblastoma is a neurogenic tumor typically diagnosed in children <5 years of age. It arises from immature neural crest cells of the medulla of the adrenal gland or, less commonly, along the paravertebral sympathetic chain. We hereby report a patient with adult-onset giant mediastinal neuroblastoma.

Case Description: A 34-year-old female presented with mid-thoracic back pain radiating to the ribs for 1 month. The neurological examination showed decreased sensation at the left T6–T12 dermatomes. Radiological imaging revealed a giant left mediastinal paravertebral soft-tissue lesion. The patient underwent a posterolateral thoracotomy and resection of the lesion. The histopathological sections were compatible with mediastinal neuroblastoma (Differentiating subtype).

Conclusion: Adult-onset neuroblastoma has been rarely reported in the literature. The present article discusses the clinicoradiological features of an adult patient with giant mediastinal neuroblastoma.

Keywords: Giant, Nerve root, Neuroblastoma

INTRODUCTION

Neuroblastoma is a neurogenic tumor typically diagnosed in children < 5 years of age.[2] It arises from immature neural crest cells of the medulla of the adrenal gland or less commonly along the paravertebral sympathetic chain.[2] Adult-onset neuroblastoma have been rarely reported in the literature.[2] We hereby report a patient with adult-onset giant neuroblastoma.

CASE DESCRIPTION

A 34-year-old female presented with mid-thoracic back pain radiating to the ribs for 1 month. The pain had limited her ability to ambulate. There was no history of weight loss, family history of malignancy, or skin manifestations. The neurological examination showed decreased sensation at the left T6–T12 dermatomes. Radiological imaging revealed a giant left mediastinal paravertebral soft-tissue lesion [Figure 1]. The patient underwent a posterolateral thoracotomy and resection of the lesion. The histopathological sections were compatible with mediastinal neuroblastoma (Differentiating subtype) [Figure 2]. The patient tolerated the surgery well. She was scheduled to be commenced on adjuvant chemoradiotherapy.

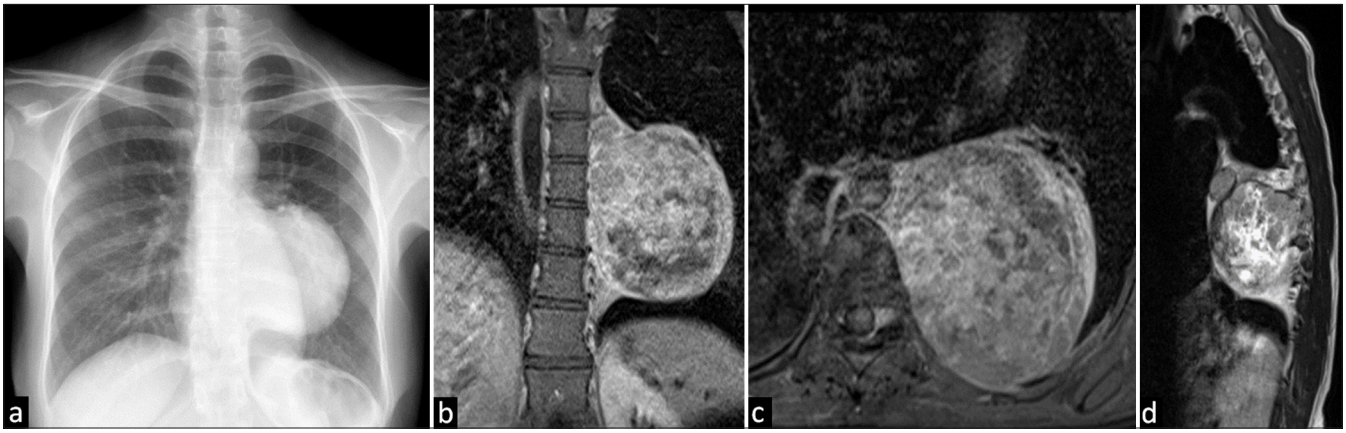

Figure 1: (a) Chest radiograph showing a large left mediastinal radiopaque lesion. (b-d) Coronal, axial, and sagittal thoracic spine magnetic resonance imaging with contrast shows a giant left posterior mediastinal lesion at the level of T6-T12. The lesion measures 12 × 8 × 9 cm in craniocaudal, transverse, and AP dimensions. It demonstrates heterogeneous enhancement throughout the lesion. The lesion extends to the paravertebral region. However, no spinal canal involvement is noted.

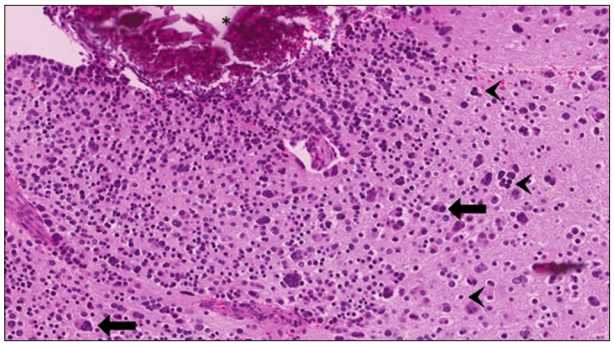

Figure 2: Hematoxylin and eosin stain; Magnification ×20. There are round blue cells embedded in a neuropil matrix (arrowhead) without schwannian stroma. Some of the cells are differentiated neuroblasts with eosinophilic cytoplasm and vesicular chromatin (arrow). Areas of calcification are also present (asterisk).

DISCUSSION

Due to the complex location of the lesion, combined thoracic and neurosurgical approaches have been implicated in establishing the diagnosis and resection of such lesions.[4] The optimal management of choice is still controversial and poses a therapeutic challenge.[3] However, chemoradiotherapy has been used to eradicate residual tumors and decrease the chances of tumor recurrence.[1] The prognosis tends to be dismal.[2] The present article discusses the clinico-radiological features of an adult patient with giant mediastinal neuroblastoma.

CONCLUSION

Giant adult-onset neuroblastoma is rare and requires a multi-faceted approach to manage such lesions. Surgical resection is performed for establishing the diagnosis and resection of the lesion. The present article discusses the clinical presentation, radiological/histopathological features, and management of adult-onset giant neuroblastoma.

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