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Extraskeletal Ewing's sarcoma/primitive neuroectodermal tumor of the posterior mediastinum with t(11;22)(q24;q12)

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ABSTRACT

Ewing's sarcoma/primitive neuroectodermal tumor family of tumors is part of a rare group of malignant neoplasms with small round-cell morphology. We describe a 24-year-old woman who presented with non-specific back pain. A chest radiograph and magnetic resonance imaging demonstrated an extraosseous, dumbbell-shaped mass of the posterior mediastinum with extension into the spinal canal. The patient underwent a left posterolateral thoracotomy and a T3-5 laminectomy with subsequent multi-agent chemotherapy. Histopathologic examination of the tumor demonstrated sheets of primitive small round malignant cells that showed no visible differentiation. Neoplastic cells were strongly immunoreactive for CD99 and vimentin and were negative for chromogranin, synaptophysin, CD31, CD34, calcitonin, desmin, low-molecular weight cytokeratins, wide-spectrum cytokeratins, leukocyte common antigen, S-100 protein, and thyroid transcription factor-1. The neoplasm was diagnosed as a Ewing's sarcoma/primitive neuroectodermal tumor, and cytogenetic studies confirmed a t(11;22)(q24;q12) chromosomal translocation and an associated trisomy of chromosome 2, supporting the histologic diagnosis. Extraskeletal Ewing's sarcoma/primitive neuroectodermal tumors are rare neoplasms that should be distinguished from other small round-cell tumors by morphology and ancillary laboratory techniques. Although rare, they need to be considered in the differential diagnosis of primary mediastinal tumors.

Key words: *cytogenetics, Ewing's sarcoma, mediastinum, neoplasm, primitive neuroectodermal tumor.*

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