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Osteoblastoma of the Cervical Spine: A Case Report

Servikal Omurga Osteoblastomu: Olgu Sunumu

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Osteoblastoma of the cervical spine extending from the C4 vertebral body to the paraspinal area is reported. Clinical, radiological and histological characteristics of the lesion are presented. The tumor's location, extension to the paraspinal area and response of the adjacent soft tissues are discussed.

Key Words : ***Osteoblastoma, Cervical Spine, Bone Tumor***

Bu yazıda dördüncü servikal vertebradan paraspinal alana uzanım gösteren bir osteoblastoma olgusu sunulmuştur. Osteblastomanın klinik, radyolojik, histolojik özellikleri, tümörün paraspinal alana uzanımı ve yumuşak doku cevabı tartışılmıştır.

Anahtar Sözcükler: ***Osteoblastoma, Servikal Omurga, Kemik Tümörü***

Osteoid-osteomas and osteoblastomas are solitary bone tumors, described by Jaffe and Lichtenstein (1, 2). Occasionally located in long bones, they account for less than 1% of all bone tumors. The spine is involved in 10% of the cases, and frequently the posterior elements of the thoracic and lumbar regions (3, 4, 5). Males are affected more frequently (2.5 to 1), and the disease usually presents in the second decade (6). This case is presented because of its rarity and localization in the cervical spine.

Case Report

A 13-year-old girl was admitted to the hospital for investigation of spasmodic torticollis and disabling neck pain for 13 months. There was no history of prior trauma or any other disease. On physical examination, a mild spasmodic torticollis was found. Neurological examination was normal. Blood chemistry and cervical X-ray were normal. Computerized tomography (CT) demonstrated a lesion from the left side of the C4 vertebral body, with sclerosis band and inhomogeneous matrix ossification (Figure 1a). T2-weighted magnetic resonance imaging (MRI) revealed hyperintense mass with reactive hyperintense signal in the paraspinal muscles (Figure 1b). Sagittal reconstruction CT revealed a bony lesion of the C4 vertebral body (Figure 1c). Digital substraction angiography (DSA) revealed compression of the left vertebral artery and flushing of the lesion (Figure 1d).

Left-sided anterior approach was chosen for the lesion. An oblique incision was used in front of the sternocleidomastoid muscle. Left common carotid artery, internal jugular vein, and vagal and phrenic nerves were exposed. The esophagus, trachea and common carotid artery left in the medial and sternocleidomastoid muscle left in the lateral side. Longus colli muscles were stony and rough. C3-4-5 vertebral bodies were exposed. The lesion was found to originate from the vertebral body in front of the transverse foramen of C4. The tumor was removed totally with curette. The lesion was extremely vascular. Muscle biopsies were taken. Stabilization and fusion procedures were not needed. Pathologic examination revealed osteoblastoma and

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inflammatory reaction and atrophy of the muscles (Figure 2). Neck pain and spasmodic torticollis resolved after surgery. There were no neurological deficits, and postoperative CT revealed total excision (Figure 3).

Discussion

Osteoblastoma accounts for approximately 3% of benign and 1% of all primary bone tumors (7). The spine is the most frequently affected, accounting for about 30%-40% (4). Osteoblastoma occurs predominately during the first two decades, in accordance with our case. They occasionally originate in the posterior vertebral elements, especially in the spinous processes and laminae (6, 8). While involvement of the vertebral body is frequent, osteoblastoma originating only in the vertebral body is rare (9). In our case, the tumor originated from the left side of the vertebral body in front of the transverse foramen of C4 and extended to the paraspinal area.

Presenting symptoms with osteoblastoma of the spine are localized, increasing pain, as in this case (4, 5, 6). Nonspecificity of symptoms was neglected by the physician, contributing to the delay in diagnosis for 13 months. Neurological deficit was not seen in our patient because of the extension of the tumor to the paraspinal area.

The lesions appear lytic and expansive on plain radiographs (7). Matrix mineralization occurs in nearly 55% to 72% of the cases (6, 7). Computerize tomography is generally informative about the lesion. Magnetic resonance imaging can provide additional information regarding the spinal cord and nerve root and neighboring soft tissue reaction (10).

Osteoblastomas involving the adjacent soft tissues have been identified (11). In the case presented, the adjacent soft tissue reaction was clearly seen (Figure 1b).

Treatment of cervical spine osteoblastoma requires a complete surgical resection (12). The type of surgical approach and necessity for stabilization and fusion procedures must be considered individually in each patient. Treatment choice in recurrent osteoblastoma is reexcision (13). Radiation therapy may sometimes be considered as an adjuvant therapy (14).

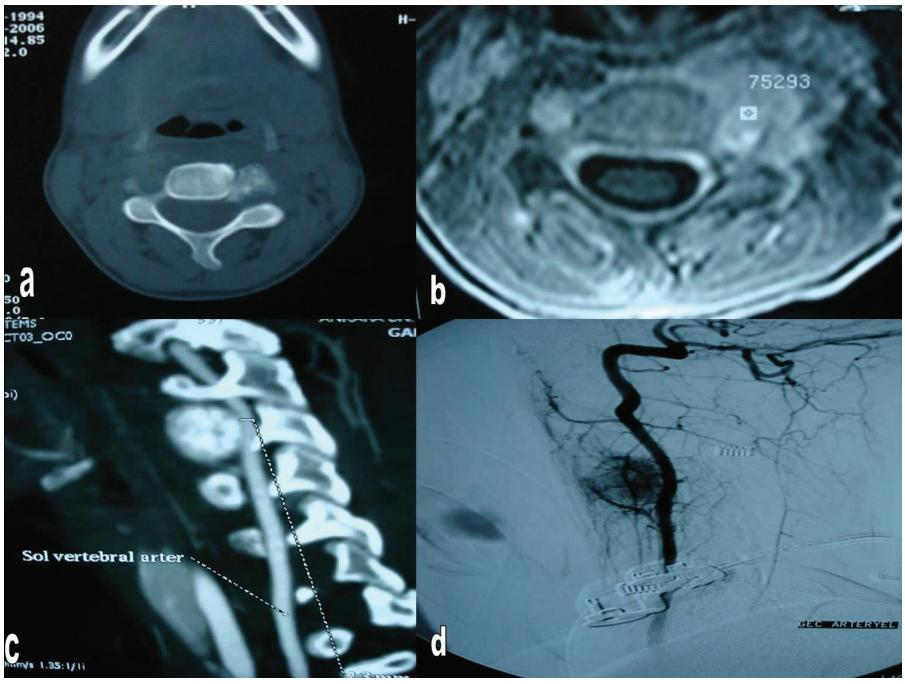

Figure 1a: Axial CT showing lesion from the left side of the C4 vertebral body.
Figure 1b: T2-MRI showing hyperintense mass with reactive hyperintense signal in the muscles.
Figure 1c: Sagittal reconstruction CT of the lesion.
Figure 1d: DSA revealing the compression of the artery.

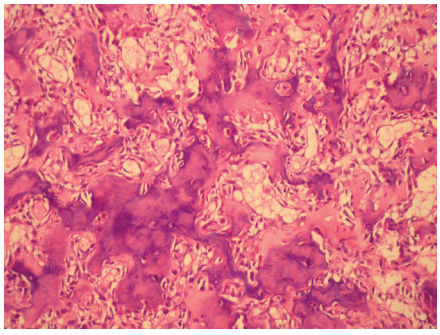

Figure 2: Pathology images (hematoxylin and eosin: osteoblastoma)

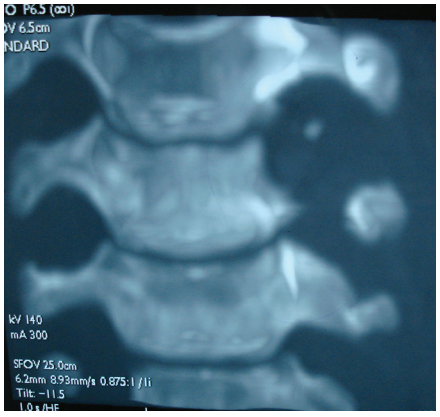

Figure 3: Postoperative 3D reconstruction CT showing total excision.

Conclusion

We report a rare case of osteoblastoma originating from the vertebral body in front of the transverse foramen of C4 with severe vertebral artery compression. The patient was successfully treated by total excision of the tumor.

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