

Osteolytic Alteration, Cervical Myelopathy and Dysphonia Associated with Mucoepidermoid Carcinoma: A Case Report

Elbert Oberto Reyes Graterol Md, Ms, PhD^{1,2}, Wilfredo Molina Wills DDS, Msc, Mshr, PHD^{3*}, Lorena Arditi Md⁴

¹University of the Andes, Faculty of Medicine, Department of Morphological Sciences. Merida, Venezuela.

²Servicio de Neurocirugía, Instituto Autónomo Hospital Universitario de Los Andes, Universidad de Los Andes, Mérida, Venezuela.

³School of Medicine, Faculty of Medicine, Universidad de Los Andes, Mérida, Venezuela.

⁴Resident of the fifth year of neurosurgery of the autonomous university institute of the Andes, Venezuela.

*Corresponding Author: Wilfredo Molina Wills, School of Medicine, Faculty of Medicine, Universidad de Los Andes, Mérida, Venezuela.

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Abstract:

Summary: A vertebral neoplasm of extraosseous origin, is that which affects the vertebra starting from a tissue that has metastasized. Clinical diagnosis and imaging only provide an etiopathological approach due to various sources of metastasis, so early obtaining of material for sample analysis and timely treatment becomes important.

Objective: this study presents a 62-year-old male patient who manifested dysphonia, respiratory distress, cervical compressive myelopathy syndrome; being as a whole this picture with characteristics of increasing intensity and persistent imaging compatible with osteolysis of the spinous process of the fourth cervical vertebra.

Methods: lateral radiographs of preoperative cervical spine and cervical magnetic resonance without contrast in sequences T1 and T2 as well as cervical magnetic resonance without contrast axial cut sequence T2 were evaluated. A week after the diagnosis by image is taken to the operative table where resection of tumor mass associated with cervical paravertebral muscles, C4 laminectomy and exceresis of an extension of the tumor to the spinal canal (extradural) is performed and the anatomopathological study was performed.

Results: The patient presented improvement due to recovery of the respiratory bellows in the immediate post-operative period, although dysphonic persisted. The biopsy result reported mucoepidermoid carcinoma. We are interested in highlighting in this case the particular evolutionary association between the respiratory-laryngeal process, cervical osteolytic process and myelopathic manifestations as a regional development of the mucoepidermoid adenocarcinomatous neoplastic activity.

Keywords: mucoepidermoid carcinoma; myelopathy; osteolysis

Introduction

Spinal metastases represent a challenge, usually and because of the variety of tissues that originate the process. The current measures of care for patients with tumors have led to survival with the appropriate quality to our time. The spine represents a very common location of metastases to the bone [1], of which 10% have been reported related to the cervical spine [2]. Pain and neurological deficit continue to guide the physician in the syndromic diagnosis although the difference in evolutionary success can be located in post-surgical therapeutics. Advances in radiotherapy as the treatment of choice for vertebral metastases, and chemotherapy have improved the quality of life of patients [3].

Spinal cord compression myelopathy is defined by invasion of the medullary canal by a tumor that advances locally or by a metastasis that produces compression or displacement of the spinal cord [4], and is classified into external and internal. According to the metastasis is located intramedullary or extramedullary [5], being the most frequent metastases, those with origin in the breast, lung and prostate [6].

Clinical case

Male patient of 62 years of age, who manifests onset of current disease of one month of evolution, characterized by progressive pain cervical of strong intensity, of sharp type, with irradiation to shoulders, calm partially with non-steroidal anti-inflammatory NSAIDs, concomitantly

progressive decrease of the muscular strength of the four limbs, respiratory distress and dysphonic. He also manifested alterations for urination and constipation, which is why he is referred to the University Hospital of the Andes Mérida-Venezuela. During the physical evaluation, he was vigilant, conscious, oriented, fluent language with prolonged pauses, preserved memory. Norm photo reactive isochoric pupils, overall decrease in muscle strength (quadriplegia), muscle hypotonicity, osteotendinous hyporeflexy, non-clonus, non-Babinsky and Dyspnea during rest.

Images

X-ray of the cervical spine was performed in anteroposterior and lateral projections where rectification of the physiological curvature is observed,

with the absence of a spinous process of C4 (Fig. 1). In simple Cervical Nuclear Magnetic Resonance in sagittal and axial cut, a rectification of physiological curvature was observed, an image of ovoid, extradural, poorly delimited shape, with irregular edges, of solid characteristics, with isointense behavior in sequence T1 (Fig. 2), hyperintense in T2 sequence (Fig. 3, 4), which occupies the posterior portion of the spinal canal from C3 to C4, with muscle invasion, and involvement of laminae, spinous process of the vertebral bodies. C3-C4 extradural spinal space occupant injury is diagnosed. (Fig. 1) Lateral X-ray of the cervical spine preoperative. Rectification of the physiological curvature and absence of spinous process of C4 are observed. (Fig. 2) Cervical magnetic resonance without contrast T1 sequence is observed with isointense posterior cervical extradural spinal image.



Figure 1: Lateral X-ray of the cervical spine preoperative Rectification of the physiological Curvature and absence of spinous process of C4 are observed.



Figure 2: Cervical magnetic resonance without contrast T1 sequence is observed with Isointense posterior cervical extradural spinal Image.



Figure 3: Cervical magnetic resonance without contrast T2 sequence is observed with hyper intense posterior cervical extradural spinal image.

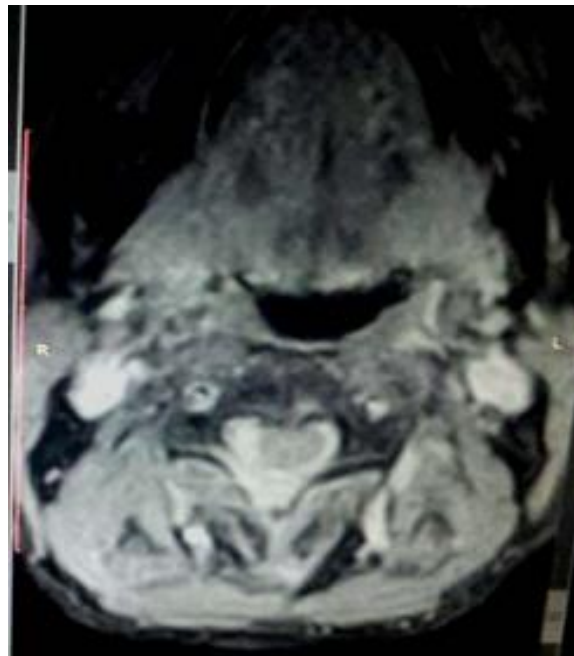


Figure 4: Cervical magnetic resonance without contrast, axial cut sequence T2.

Surgical procedure

Patient who is taken to the operating table one week after the imaging diagnosis. Where a cervical incision was made posterior from C1 to C5, dissection by planes. Among the findings, we observed a rounded mass attached to cervical paravertebral muscle of 3x3x3 centimeters which we removed, with transformation of bone tissue to cartilaginous in c4 spinous process corroborated by histological study. Spinal decompression was then performed by C3-C4 laminectomy, extradural intraspid compressive mass exceresis.

Completed surgical act without complications, the patient had a satisfactory clinical evolution presenting improvement of the respiratory process.

Anatomopathological Findings

The histological sections of the examined material show malignant neoplasm of epithelial lineage consisting of cells with moderate to abundant amount of well-delimited cytoplasm, pleomorphic and hyperchromatic nuclei, others with chromatin in lumps, reinforcement of the nuclear membrane and evident nucleoli. Other cells show abundant well-delimited cytoplasm. These cells are arranged forming tubules, masses and nests that infiltrate the adjacent stroma. Cysts and areas with cribriform pattern with lights occupied by a cellular amorphous eosinophilic material are identified (Fig. 5, 6).

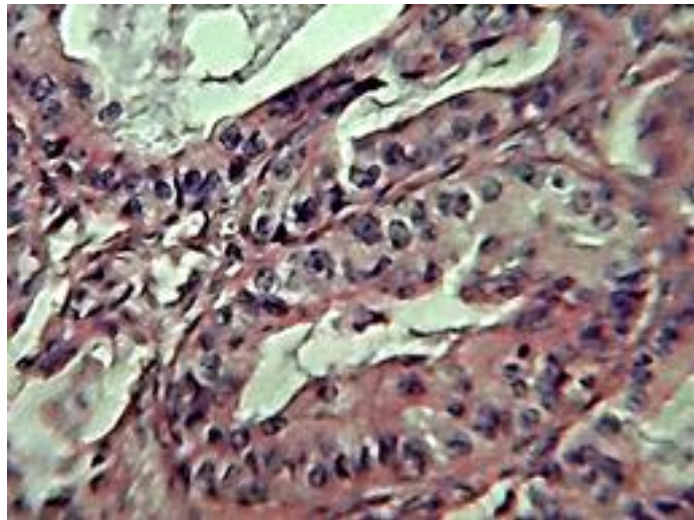


Figure 5: *Histological cut with epithelial neoplastic infiltration.*

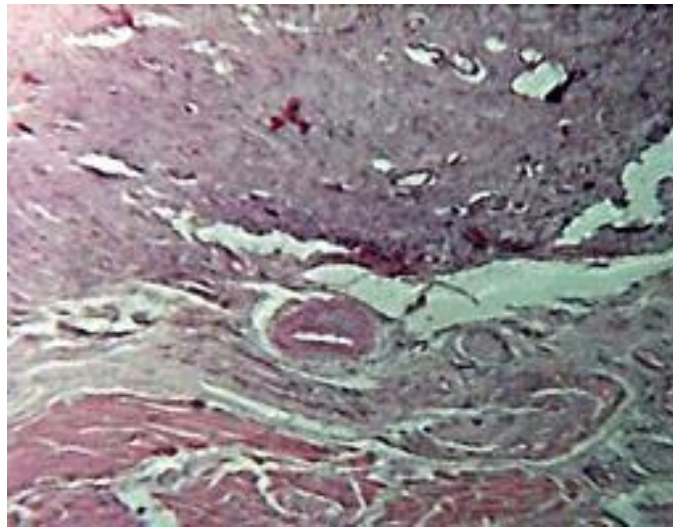


Figure 6: *Histological cut with neoplastic infiltration of epithelial lineage, cells are arranged forming tubules.*

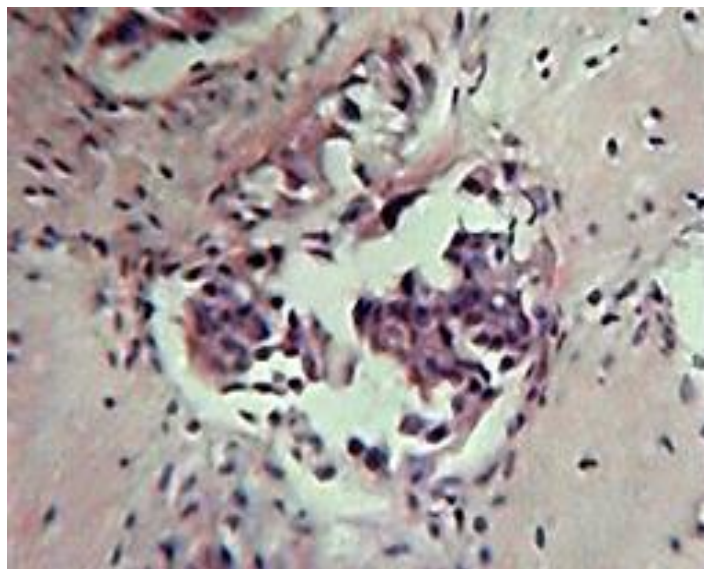


Figure 7: *Histological cut bone tissue is observed, with infiltration of epithelial lineage, with muscle and cartilaginous tissue.*

Discussion

The spine is the third most frequent implantation site of systemic neoplasm metastases, then the lung and liver. Of the 40% of patients with spinal metastases, 10-20% developed medullary compression with myelopathic manifestations [7, 8].

In relation to age, there is a predilection as the primary origin of spinal metastases in adults, 50% of spinal metastases have their origin in the breast, lung and prostate (9), with metastases due to mucoepidermoid carcinoma rare in this location, with few reports in the literature, extradural localization metastases account for 95% and intradural 5%, topographically the location in the thoracic spine and dorsolumbar charnela constitutes 70%, follows in frequency the lumbar spine and the sacrum in 20% and, being the least frequent location the cervical spine and the cervicothoracic charnela in 10%. In the spinal axis, the spine is affected in 85% of cases, the paraspinal region in 10-15% and subarachnoid or intramedullary space in less than 5%. In the vertebrae, the back of the body is affected first and then the anterior part of the body, the sheet and pedicles [9, 10].

The case presented of mucoepidermoid carcinoma in the spine as an extradural lesion, has an infrequent location according to the description of the reviewed literature, being the most common tumor of malignant tumors of salivary glands, and more frequent in the female sex between the third and sixth decade of life. Although, age coincides with epidemiological characteristics, although its clinical presentation presents with regional metastases mostly, with a minimum number of reports of invasion at a distance. The patient has no history of tumor lesions in salivary glands, nor pharyngeal or laryngeal lesions, debuting with a clinic of cervical pain, decreased muscle strength, respiratory distress, dysphonic and bone alterations at the imaging level, presenting useful characteristics for the early diagnosis and treatment of this type of injury.

Ethical procedures

All ethical procedures in this study were respected. The consents to carry out and the identity of the patient were taken into account according to the Helsinki regulation.

Conclusion

Mucoepidermoid carcinoma at the cervical level is very rare, as well as its presentation. Imaging studies such as radiography, computed tomography and magnetic resonance imaging are very useful to make the

diagnosis. The surgical treatment should have as its purpose the resection of the lesion in order to avoid complications and receive the treatment of chemotherapy and radiotherapy in the fastest way to avoid recurrence of the presented clinic.

Conflict of interest

None of the authors have conflicts of interest.

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