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Case Report

Giant Cell Tumor of the Sphenoid with Clivus Extension in a Pediatric Patient

Garrido Ruiz PA[1*]; Román Garrido M[2]

[1]Department of Neurosurgery, Hospital Universitario de Salamanca, Salamanca, Spain

[2]Department of Primary Care, Hospital Universitario de Salamanca, Salamanca, Spain

***Corresponding author:** **Patricia Alejandra Garrido**
Department of Neurosurgery, Hospital Universitario de Salamanca, Neurosurgery Service, 4th Floor Block D, P.o de San Vicente, 182, 37007 Salamanca, Spain.
Tel: 616792305
Email: 02717445H@saludcastillayleon.es; agrjandri_92@hotmail.com

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Abstract

We present a case of giant cell tumor of the clivus in a pediatric patient. The case is very interesting because this benign tumor is generally located in the epiphysis of long bones, and only 1% is found in the cranial vault and the base of skull. The sphenoid bone and the petrous portion of the temporal bone are the most commonly affected cranial locations, probably due to their endochondral ossification.

Keywords: Giant cell tumor; Clivus; Pediatric; Endoscopic

Case Presentation

The patient is a 13-year-old girl with a personal history of migraine and tinnitus, with a normal MRI conducted the year before. She presented oppressive temporal-parietal headache and complete ophthalmoplegia of the left eye, with ipsilateral blindness and no light perception. A CT scan reveals an expansile soft tissue mass centered in the clivus that expands anteriorly to the sphenoid bone and the posterior ethmoidal cells, with associated remodeling and patchy lytic areas in adjacent bone structures. A brain MRI shows a 4.4x2.4x2.3cm mass that suggests fibrous dysplasia or plasmacytoma.

Discussion

A transnasal biopsy was performed, with a histological diagnosis of giant cell tumor of bone. The ^{18}F-FDG PET-CT and brain CT for neuronavigation that were conducted 10 days later revealed a growing mass in its anteroposterior diameter. he lesion was excised with endoscopic transnasal surgery.

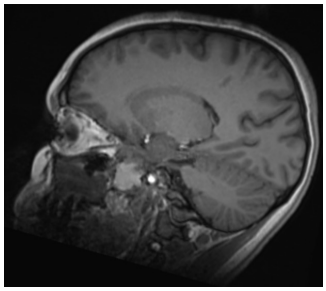

Figure 1: Sagittal brain MRI without contrast (hyperintense lesion).

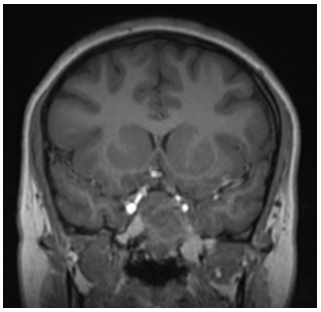

Figure 2: Coronal brain MRI without contrast (hyperintense lesion).

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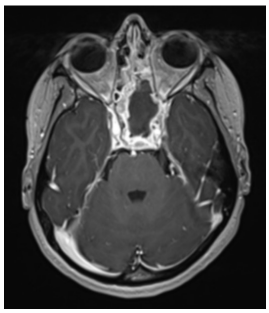

Figure 3: Axial brain MRI with contrast (hypercaptant lesion).

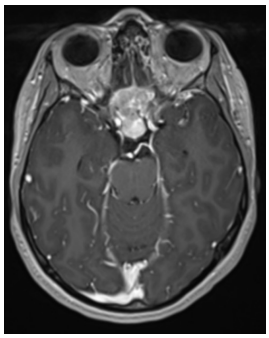

Figure 4: Axial brain MRI with contrast (hypercaptant lesion).

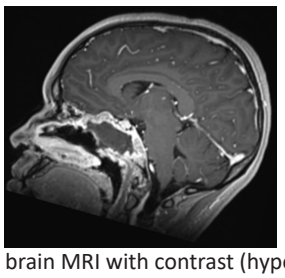

Figure 5: Sagittal brain MRI with contrast (hypercaptant lesion)

Conclusion

Giant cell tumors present slow growth and local aggressiveness and can cause compression symptoms in adjacent structures. They can extend to the lungs, which mean that it is important to start treatment as soon as possible with complete surgical excision for curation and in order to prevent recurrence. One potential complementary treatment is denosumab, which is still in trial stage. Currently, the use of bisphosphonates and radiotherapy is the complementary treatment. This last technique is still controversial because it can cause sarcomatous transformation and is reserved for cases of recurrence.

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