

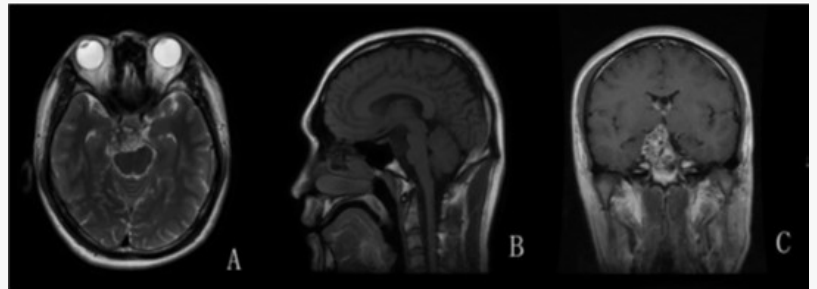
Chinese Neurosurgical Journal Study Reviews Rare Form of Central Nervous System Tumors

Researchers present a case series and review literature on sellar chondrosarcomas occurring in the base of the skull

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/EINPresswire.com/ -- Sellar

chondrosarcomas are a very rare form of bone cancer occurring in the base of the skull, which are not only poorly understood but also frequently misdiagnosed. Now, researchers have explored the clinical outcomes of non-invasive surgical techniques for these tumors, while additionally exploring their diagnosis, treatment, and prognosis. They also provide valuable recommendations on using clinical and imaging data for accurate preoperative diagnosis of these tumors.



Preoperative MRI of a patient with sellar chondrosarcoma reveals an oval lesion in the intrasellar and suprasellar region

Chondrosarcomas are a malignant form of bone cancer that is composed of cartilage-forming tumor cells. Sellar chondrosarcomas, which occur in the sellar region at the base of the skull, are a very rare manifestation of chondrosarcoma, making up only around 0.2% of all tumors found in the skull. Historically, transcranial (or through the skull) surgery is the main treatment option for these tumors – however, with the advancement of surgery techniques, more non-invasive options have become popular for treatment. More specifically, endonasal endoscopic surgery, wherein a thin tube called an endoscope is inserted into the nose to help visualize and remove tumors, is now being frequently adopted for the resection or surgical removal of sellar chondrosarcomas.

Now, in a study published online on 26 June 2025 in the Chinese Neurological Journal, a team led by Professor SongBai Gui from Beijing Tiantan Hospital, Capital Medical University, Beijing, China, has evaluated the clinical outcomes of endoscopic resection in sellar chondrosarcomas. To accomplish this, they reviewed the cases of 4 patients with sellar chondrosarcomas who underwent tumor resection through an endonasal endoscopic approach (EEA). In addition, they reviewed 8 cases of sellar chondrosarcomas that were previously reported in other studies.

The information from the literature review was then integrated with the case series to discuss the symptoms and distinguishing features of these tumors. This study is particularly important as there is still a very limited understanding of sellar chondrosarcomas. "Sellar chondrosarcomas are very rare, and often misdiagnosed as other common sellar lesions," Prof. Gui notes. "To date, their clinical presentation as well as their diagnosis, treatment, and prognosis have yet to be well understood."

Their results showed that among the 12 patients studied (who had a median age of 28.5 years), the most common clinical presentations were blurring of vision, which was observed in two-thirds of the patients, and headaches, which were observed in half the patients. In addition to this, a third of the patients presented with some form of endocrine disorder, which could return to normal after surgery.

However, since many features of sellar chondrosarcomas overlap with other tumors found in the same region, the authors observed that their preoperative diagnosis (or diagnosis prior to surgery) remains challenging. This is demonstrated by the observation that among the 12 patients studied, only one was actually diagnosed with sellar chondrosarcoma prior to surgery. The other patients were misdiagnosed with other similar forms of tumors known as chordomas, invasive non-functioning pituitary adenoma (INPA), or craniopharyngioma.

To tackle this, the authors provide some recommendations on using imaging data, specifically MRI (Magnetic Resonance Imaging) and CT (Computed Tomography), as well as clinical data to accurately diagnose sellar chondrosarcomas and avoid misdiagnoses. Elaborating on the technical aspects of this, Prof. Gui suggests to clinicians that "when a patient has a sellar calcified mass which presents with intact or slightly disturbed anterior pituitary function, MRI sequences with heterogeneous enhancement and no diffusion restriction, along with CT scans showing surrounding bony destruction and attachment, a chondrosarcoma should be preferentially suspected."

Put simply, this means that sellar chondrosarcomas typically present with intact or only slightly disturbed functioning of the anterior pituitary gland, which releases hormones such as thyroid-stimulating hormone (TSH) and prolactin, which regulate various bodily functions. In addition, MRI features such as non-uniform signal intensity within a mass and no diffusion restriction (i.e., free water movement in a tissue), as well as CT scan features such as bone destruction and tumor connection with bone tissue, are all indications that a sellar chondrosarcoma should be suspected.

Finally, the study also touches upon the clinical management of these tumors. Out of the 12 patients studied, complete resection or complete removal of the tumor was achieved in only seven cases, while the other five showed incomplete tumor resection. "Complete resection is, of course, the optimal goal for the management of sellar chondrosarcoma, but adjuvant radiotherapy, if required, and periodic follow-up should be prioritized as well," Prof. Gui explains, recommending postoperative radiotherapy for patients with definite residual or recurrent

disease.

Overall, this study provides crucial insights into a disease that is not only rare but also frequently misdiagnosed, serving as a valuable resource for clinicians and their patients.

Reference

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About the University Capital Medical University, Beijing

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About Professor SongBai Gui from Capital Medical University

Dr. SongBai Gui is a Professor at the Department of Neurosurgery, Beijing Tiantan Hospital, Capital Medical University, Beijing, China. He has published around 130 papers on topics including advances in craniopharyngioma and endoscopic skull base tumor surgery. He has also accumulated over 1,600 citations for this work, which has been published in reputable journals such as Frontiers in Oncology.

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