

## Orbital cellulitis as a first sign of ethmoid sinus osteoma in children – case report and short literature review

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**Introduction:** Orbital cellulitis is a rare condition with very dangerous complication of acute sinus infection that could potentially lead to vision loss. It is the most common complication of acute sinusitis, especially in children. On the other hand, osteoma of paranasal sinuses in pediatric patients causing orbital cellulitis is a very rare phenomenon.

**Case report:** A 13-year-old male child was presented to our Clinic with severe frontal headache, large swelling of the upper right eyelid, proptosis, chemosis and impaired vision of the affected eye. Fiberendoscopy showed purulent discharge from both nasal cavums and mucosal inflammation which caused the narrowing of the right ostiomeatal complex as well as sphenoetmoidal recess. Computer tomography of the paranasal sinuses revealed a subperiosteal abscess localized on the superolateral orbital wall with opacified right frontal sinus and huge ethmoid sinus osteoma measuring 2.5x2x1 cm. The tumour was removed endoscopically and great care was taken not to pierce the skull base and simultaneously remove all parts of the tumour. In addition, an outer incision of 1 cm of the upper eyelid was performed. The patient's symptoms decreased postoperatively, and the patient was released from the Clinic with significant improvement on the sixth postoperative day.

**Discussion:** We present an extremely rare case of ethmoidal osteoma which caused orbital cellulitis in a pediatric patient. Treating such patients is very sensitive and established algorithms do not exist. We examined the available literature on the aforementioned topic. According to Chandler's classification of orbital cellulitis, the treating of grade III or subperiosteal abscess is still a controversy. However, in our patient's case, the cause of cellulitis was large osteoma, so surgical intervention was inevitable. An endoscopic approach gives excellent results, but maximal care must be taken in order to avoid damaging the surrounding important structures, especially in pediatric patients who have narrow nasal cavities.

**Keywords:** orbital cellulitis, ethmoid sinus osteoma, pediatrics