Orbital Abscess - A Complication of an Infected Maxillary Sinus Odontogenic Keratocyst in the Setting of an Unrepaired Orbital Floor Fracture

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ABSTRACT

Orbital manifestations are rarely observed in the context of an odontogenic infection, particularly of an infected odontogenic maxillary cyst. Odontogenic keratocysts (OKC) are particularly aggressive, with a high recurrence rate and locally destructive potential. We present a case of an orbital complication arising from an infected OKC and associated with an orbital floor fracture.

INTRODUCTION

Orbital manifestations are rarely observed in the context of an odontogenic infection, particularly of an infected odontogenic maxillary cyst. Odontogenic keratocysts (OKC) are particularly aggressive, with a high recurrence rate and locally destructive potential. We present a case of an orbital complication arising from an infected OKC and associated with an orbital floor fracture.

METHODS

(1) Retrospective review of a case record of a patient. (2) Review of literature pertinent to odontogenic keratocysts and orbital complications of odontogenic infections.

CASE PRESENTATION

A 19 year old male with a distant history of an unrepaired right orbital floor fracture presented to the Emergency Department with diplopia, right periorbital swelling and retro-orbital pain, as well as progressive swelling of the right cheek; all following a two week prodrome of rhinorrhea, congestion, and fevers. CT scan of facial bones revealed an maxillary sinus abscess on presentation a year later (axial).

Outpatient treatment was continued with intravenous and oral antibiotics until definitive surgery to remove the cyst two months later. Follow-up CT revealed resolution of previous extension of abscess into the orbit, with persistence of a fluid-filled cyst. Nasal endoscopy showed bulging of the right lateral nasal wall, without any evidence of purulence. A combination of Caldwell-Luc approach and endoscopic maxillary antrostomy were used. The cyst was entered and decompressed, yielding a thin green fluid. Nasal endoscopy showed bulging of the right lateral nasal wall, without any evidence of purulence.

REFERENCES


DISCUSSION

Blake et al. reports only a 1.3% prevalence of extension of dentoalveolar abscesses into the orbit. The rarity of this presentation continues to lead to misdiagnosis and delayed onset of therapy. Complications include optic atrophy leading to permanent decrease or loss of vision, superior orbital fissure syndrome, orbital apex syndrome, intracranial extension, and death. One author reported a case of blindness and cavernous sinus thrombosis.

The natural anatomy of the orbit serves to both protect, as well as to allow for atrophy leading to permanent decrease or loss of vision, superior orbital fissure syndrome, orbital apex syndrome, intracranial extension, and death. One author reported a case of blindness and cavernous sinus thrombosis.

Furthermore, the case is complicated by a distant history of an unrepaired orbital floor fracture, which as an isolated event could result in invasion of the orbit through the floor. However, in the context of an orbital abscess, this fracture represents a conduit that allows for dissemination into the orbit. The presence of an orbital floor fracture in this case may have increased the risk of orbital extension.

The cyst was drained, and the soft tissue was excised. The patient was treated with a combination of post primary drainage and IV antibiotics. The patient had resolution of his symptoms and returned to his daily activities without any deficits.

The patient was referred to the ophthalmology department for follow-up. The patient was in close follow-up with the ophthalmology department until full resolution of his symptoms.

CONCLUSIONS

Infected odontogenic cysts rarely present with orbital manifestations. However, as misdiagnosis and delay in therapy can lead to devastating consequences, they should not be excluded from the differential diagnosis, especially with a history of orbital floor fracture. Odontogenic keratocysts, treatment included careful removal and slow follow up.