

Orbital cellulitis - A complication of sinusitis

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Abstract

A 9 years old patient presented with swelling and severe pain in right eye with diplopia; with normal visual acuity. CT scan of paranasal sinus revealed right eye axial proptosis and dehiscence in lamina papyracea. After thorough investigation, patient was posted for surgical drainage and decompression of the right orbit. Patient, improved after surgery and followed regularly for last 2 months.

Key word: Orbital cellulitis- A complication of sinusitis.

Complications associated with sinusitis may broadly be divided into acute and chronic or local and distant. Local acute complications are by far the more common and may broadly be categorized as orbital, intracranial and bony. Orbital complications of sinusitis most frequently affect the young with 85% under 20 years and 50% or more being under 6 years of age². Complications in children are most frequently due to ethmoiditis in absence of frontal sinus development³ and in adults frontal sinus is the frequent culprit.

Case Report

9 year old male child presented to casualty with right eye swelling, pain and diplopia since one week. Swelling of right eye started 3 days after common cold, followed by dull aching pain, which was localized, continuous, progressive and associated with diplopia. There was no history of diminution of vision. E.N.T examination showed mucopurulent discharge in middle meatus and oedematous mucosa over middle turbinate, while ophthalmologic examination was done to assess displacement of the globe, ocular movement and most importantly visual acuity. There was axial proptosis with restricted ocular movements and visual acuity was normal. CT scan (coronal and axial cut) of paranasal sinus showed right ostiomeatal complex disease, dehiscent lamina papyracea and mild axial proptosis. Broad spectrum I.V. antibiotic and nasal decongestant were administered. Patient was posted for combined approach surgical drainage of subperiosteal orbital abscess. By external approach a modified Lynch-Howarth incision was made.

Medial wall of orbit and floor of right frontal sinus was found to be dehiscent. Pus was drained out and diseased mucosa of Frontoethmoid complex removed. Endoscopically bilateral middle meatal

antrostomy was performed to clear maxillary sinus disease. Diseased mucosa and pus was sent for histopathologic examination and culture and sensitivity respectively. Drain was placed in post operative cavity. After completion of the procedure, haemostasis was confirmed. Wound was closed in two layers and ribbon gauge soaked in antibiotic ointment was packed in both nasal cavity. On 2nd and 6th day, nasal pack and sutures were removed respectively. Patient improved and was discharged on 7th post operative day after removal of drain.

Discussion

Orbital complication of sinusitis are common in the young under 20 years of age. Curiously the left orbit has consistently been shown to be more frequently affected⁴. Incidence of orbital complications secondary to sinusitis has been reported at between 21 and 90%³. The frequency appear to be higher during the winter and spring⁵.

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In 1937 Hubert classified the orbital complications of sinusitis into five groups.

1. Inflammatory edema of the eye lids with or without edema of orbital contents.
2. Sub periosteal abscess
3. Abscess of orbital tissues
4. Mild to severe orbital cellulitis with phlebitis of ophthalmic vein.
5. Cavernous sinus thrombosis.
6. With exception of preseptal cellulitis all other forms of acute cellulitis are associated with significant pain tenderness and displacement of globe.

Long term sequelae of orbital cellulitis

In addition to permanent visual loss and ophthalmoplegia, cornea may become anaesthetic or permanently damaged due to exposure keratitis⁶. Rupture of globe and iris prolapse have also been described due to increased intra orbital pressure.

Conclusion

Orbital cellulitis is potentially a dreaded complication of sinusitis. In pre antibiotic era 17-20% of patients with orbital cellulitis died of meningitis or had permanent visual loss. With the use of broad spectrum antibiotics and timely surgical intervention, morbidity and mortality has reduced drastically. This case is reported as early detection and treatment can prevent this dreaded complication of the sinusitis.

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