



Audit of the management of paediatric orbital and pre-septal cellulitis and the role of specialist input in line with published guidelines

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Objectives

Orbital cellulitis is a rare but serious bacterial infection of the eye that is more commonly seen in the paediatric population and has the potential for serious long-term consequences if not managed appropriately.¹ This audit aims to assess the compliance of management of orbital and pre-septal cellulitis with local and national guidelines (BIPOSA, Royal College of Ophthalmologists) by analysing clinical findings, treatment, specialist input and patient outcomes.²

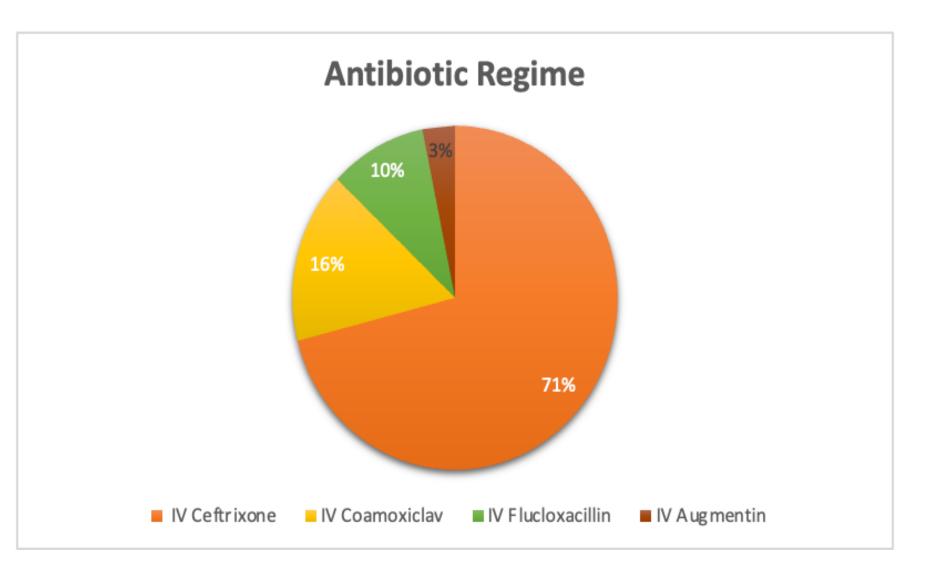
Methods

A retrospective analysis of 44 paediatric patients that presented to A&E between January 2020 and August 2022 was performed. Data was collected on I.V. antibiotic choice, timepoints of specialist ophthalmology and/or ENT input and length of hospital stay.

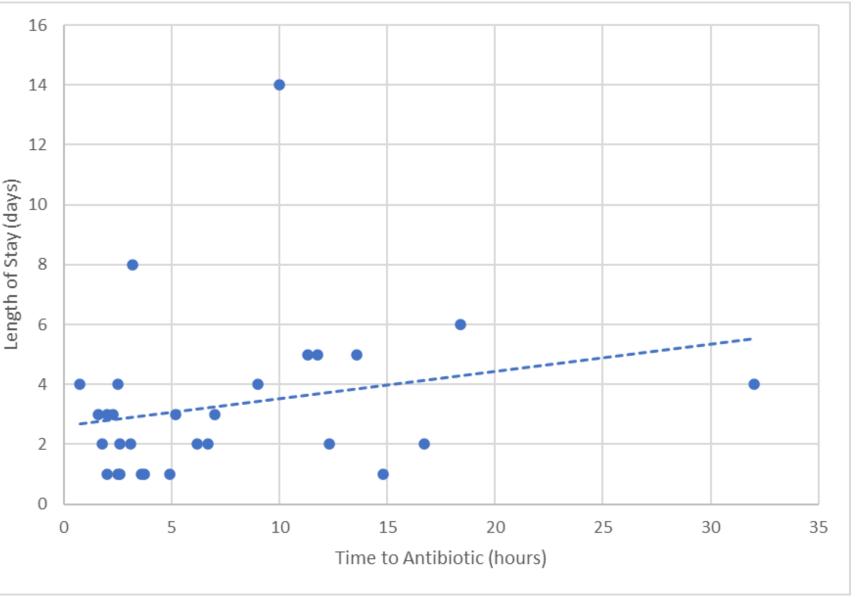
Conclusion

Orbital and pre-septal cellulitis in the paediatric population needs close monitoring and timely intervention with the appropriate management (antibiotics and imaging). Where necessary, specialist teams need to be involved early in the care. In units with fewer paediatric/orbital ophthalmologists, orthoptists could be utilised. We have proposed a new, revised guideline for management of this condition within our department.

Results



71% received 1st line antibiotic as per local antibiotic guidelines



Trend towards increased length of stay based on time to first antibiotic dose (range 30 mins- 33 hours)



33% not receiving any specialist input from Ophthalmology/ENT and 37% of inpatients did not have outpatient follow up

RED FLAGS

Increasing drowsiness Meningism/irritability

Severe headache persisting despite regular

analgesia or worse on lying down/in morning

Persistent vomiting

Severe retrobulbar pain
New onset squint or diplopia

Deteriorating vision

New limb weakness

Unsteady gait/co-ordination issues

CONSIDER URGENT NEURO-IMAGING

Mild/Mod Pre-septal cellulitis

- Oral Co-amoxiclav (total length
- = 5 days) +/- topical decongestant
- Optimise analgesia
- Verbal and written safety netting information

DIAGNOSIS

Unilateral eyelid oedema and erythema Unilateral eye pain or tenderness

Mod/Sev Pre-septal cellulitis

- Bloods- CRP, FBC, Blood cultures
- If nasal endoscopy performedsinus swab
- I.V. Antibiotics (Co-amoxiclav)
- +/- topical decongestant
- Optimise analgesia
- ENT +/- Ophthalmology review
- Step-down to oral antibiotics on discharge (total length IV and oral= 7 days)

Orbital cellulitis

- Bloods- CRP, FBC, Blood cultures
- Neuro-imaging
- Admission under paediatrics
- I.V antibiotics (Ceftriaxone and metronidazole)
- Daily ophthalmology and ENT review
- 4 hourly eye and neuro obs with head of bed elevation
- If no orbital collection- manage as per severe pre-septal cellulitis
- If abscess, consider drainage
- Step-down to oral antibiotics on discharge (total length IV and oral = 14 days)

INDICATION FOR IMAGING
CNS involvement/focal neurology/meningism
Unable to examine eye/open eyelids
Clinical signs of orbital cellulitis
Clinical progression despite 24 hours
treatment or no improvement after 48 hours
Continued pyrexia after 48 hours antibiotics

References

- 1. Danishyar A, Sergent SR. Orbital Cellulitis. StarPearls. 2022. [Cited 2024 February 10]. Available at: https://www.ncbi.nlm.nih.gov/books/NBK507901/
- 2. Kipioti, T. Preseptal and Orbital cellulitis in Children. [internet] University Hospitals Birmingham. Local Trust Guidelines. [cited 2024.02.10].