

PAEDIATRIC ORBITAL AND PERIORBITAL CELLULITIS, A TEN-YEAR RETROSPECTIVE REVIEW OF ADMISSIONS TO THE JOHN HUNTER CHILDREN'S HOSPITAL.

Purpose: The primary aim was to report outcome data, for management of paediatric cases presenting with periorbital and orbital cellulitis, at a large tertiary paediatric referral hospital.

Methods: A single-centre retrospective review was conducted; for consecutive paediatric admissions with ICD-10 coded diagnoses: periorbital/orbital cellulitis, between January 1st 2007 and January 1st 2017, at the John Hunter Children's Hospital, Newcastle, NSW.

Primary analysis was performed on baseline and clinical demographics; microbiology; CT findings including Chandler classification; surgical outcomes and complications. Data were extracted, modelled and analysed via SPSS software.

Results: Two-hundred-thirty-eight patients were analysed. Mean age was 5.9 years, 62.2% were males. Periorbital cellulitis was present in 227 (89.9%), orbital cellulitis in 24 (10.1%) with 13 cases overlapping. Microbiology was collected in 48.8%. CT scanning performed in 21.0%, 91.7% of orbital cases underwent CT. The relative-risk of surgical intervention in orbital cellulitis cases was 12.9 times (95% CI =5.1-32.8) that of periorbital cases. 54.2% of orbital cases required surgery.

Cases of orbital cellulitis were 8.23 (95% CI =3.0- 22.8) times more likely to experience complications, compared to the pre-septal cohort. 33.3% experienced complications, including: corneal ulceration, sub-periosteal abscess, ICU admission, seizures, sepsis, and meningitis. There were no deaths.

Conclusion: In this ten-year review of periorbital and orbital infective admissions to a major tertiary paediatric centre, orbital cellulitis occurred in 10.1% and was frequently associated with complications.

This large Australian dataset of high-acuity presentations demonstrates the current trends in pathology, management and complications. This article establishes the basis for a future clinical practice guidelines, directing management of undifferentiated peri-orbital infections.