MEDICAL RESEARCH FOUNDATION



Antibiotic policy for Orbit, Oculoplasty, Reconstructive and Aesthetic services

Antibiotic guidelines based on type of infection

1. Orbit & periorbital cellulitis
   1. **Preseptal cellulitis** - Initial antibiotic therapy is empiric.
      1. Causative organism in most cases in not identified.
      2. Common organisms include *Streptococcus pneumoniae*,*Haemophilus influenzae*, *Staphylococcus aureus,* other streptococcal species, and anaerobes.
      3. In adult non-toxic patients who can comply with therapy, initial treatment is by oral antibiotics.
      4. Most pediatric patients need admission and intravenous antibiotics.

|  |  |  |  |
| --- | --- | --- | --- |
| **OUTPATIENT TREATMENT RECOMMENDATIONS** | | | |
| **MONOTHERAPY** – **CLINDAMYCIN**   * Covers S Aureus (including MRSA), S Pneumoniae, most other streptococci and anaerobes. It has poor H Influenzae coverage. * Age based Clindamycin regimens are as follows: - | | | |
| **CLINDAMYCIN** | DOSE | FREQUENCY | DURATION |
| PAEDIATRIC | 30-40 mg/kg/day/PO (maximum dose 1.8g / day) | Divided q8h | 10-14 days |
| ADULT | 600mg/PO | Q8h | 10-14 days |
|  | | | |
| COMBINATION THERAPY- **TRIMETHOPRIM- ULFAMETHOXAZOLE**   * Combination therapy in patients who are not immunized Consider against *H influenzae* or in patients who cannot take clindamycin. Options are as follows. * Trimethoprim-sulfamethoxazole (covers *S aureus* [including MRSA], *S pneumoniae*, and *H influenzae*) | | | |
| **TRIMETHOPRIM-SULFAMETHOXAZOLE** | DOSE | FREQUENCY | DURATION |
| PAEDIATRIC | 8-10 mg/kg/day PO/IV | divided q12h | For 10 days |
| ADULT | 160mg/PO | Q12h | For 10 days |
| {Or}   * Amoxicillin-clavulanate (Covers most streptococcal species; poor coverage for MRSA and anaerobes) | | | |
| **AMOXICILLIN -CLAVULANATE** | DOSE | FREQUENCY | DURATION |
| PAEDIATRIC | 45-90 mg/kg/day | divided q12h | 10-14 days |
| ADULT | 75 mg PO | q12h | 10-14 days |

b) **Orbital cellulitis**

Treated with intravenous antibiotics on admission.

|  |  |  |  |
| --- | --- | --- | --- |
| INPATIENT REGIMENS | | | |
| Amoxicillin-clavulanic acid (covers *S aureus,* streptococci, *H influenzae,* and anaerobes) | | | |
| AMOXICILLIN-CLAVULANIC ACID | DOSE | FREQUENCY | DURATION |
| PAEDIATRIC | 45mg/kg/day | divided q2h | 10-14 days |
| ADULT | 875mg /PO | Q12h | 10-14 days |
| Or  Ceftriaxone - (covers *S aureus,* streptococci, *H influenzae,* and anaerobes) | | | |
| CEFTRIAXONE | DOSE | FREQUENCY | DURATION |
| PAEDIATRIC | 50-100 mg/kg/day IM/IV |  |  |
| ADULT | 1-2 g IM/IV | Q24h |  |
| If MRSA is suspected, Add Vancomycin. Age-based vancomycin regimens are as follows: - | | | |
| VANCOMYCIN | DOSE | FREQUENCY | DURATION |
| Age 1 month to 11 years | 10-15 mg/kg IV(maximum of 1 g/dose | Q6-q8h |  |
| Older than 12 years | 1 g (15 mg/kg) | q12h | 7-10 days |

2) **Acute dacryocystitis**

Treated empirically with oral broad-spectrum antibiotics on an out-patient basis.

|  |  |  |  |
| --- | --- | --- | --- |
| Amoxicillin-clavulanate (Covers most streptococcal species; poor coverage for MRSA and anaerobes) | | | |
| AMOXICILLIN-CLAVULANATE | DOSE | FREQUENCY | DURATION |
| PAEDIATRIC | 45-90 mg/kg/day | divided q12h | 10-14 days |
| ADULT | 75 mg PO | q12h | 10-14 days |

In case of severe infection with features of orbital cellulitis, young age, immunocompromised state - patient must be admitted and treated with intravenous antibiotics, as mentioned under treatment of orbital cellulitis. In case of access to specimen of infective material - treatment must be guided by microbiological analysis including culture and sensitivity

3) **Minor eyelid infections**

Treated with topical antibiotics, unless show features of preseptal cellulitis.

Antibiotic policy regarding surgical prophylaxis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TYPE OF CASE | SURGERY | RECOMMENDATION | ALTERNATIVE REGIMEN | COMMENT |
| Ultra Clean | MINOR PROCEDURES. e.g., cyst/ chalazion. | No antibiotic prophylaxis |  |  |
| Clean | Uninfected eyelid/ orbit surgeries.  e.g., ptosis, orbitotomy. | Single pre-op i.v Ceftazidime within 60 minutes before incision  (1 gm IV single dose for adults and 30-50 mg /kg IV single dose for children:1-12 years) | Single pre-op i.v. Clindamycin within 60 minutes before incision in penicillin intolerant pts | No additional postoperative antibiotic is needed |
| Clean contaminated | Uninfected lacrimal / socket surgeries.  e.g., planned evisceration/ enucleation. | Single pre-op i.v. Ceftazidime within 60 minutes before incision | Single pre-op i.v. Clindamycin within 60 minutes before incision in penicillin intolerant pts | Limited to cases with no clinical evidence of medial canthal inflammation or pre-op / intra-op purulent sac discharge |
| Contaminated/ infected | Infected lacrimal sac surgeries, contaminated traumatic wounds, abscess drainage, associated sinus infection. | Single pre-op i.v Ceftazidime within 60 minutes before incision | Single pre-op i.v. Clindamycin within 60 minutes before incision in penicillin intolerant pts + prophylactic oral antibiotics (clindamycin / fluoroquinolone) for 5 days. | Post-operative: Oral Ampicillin / Amoxicillin +/- clavulinate (20 mg/kg TDS) for children and 500 mg TDS for adults, for a duration of 5-7 days. Metronidazole in case of suspicion of anerobic infection.  Oral antibiotics may be modified based on microbiological analysis of purulent discharge. |

\*Pts with heart valves, immunocompromised patients or otherwise requiring antibiotic prophylaxis may be given the same as per physician’s advice.

**References:**

1. Fay A, Nallsamy N, Pemberton JD, Callahan A, Wladis EJ, Nguyen J, Durand ML. Prophylactic postoperative antibiotics for enucleation and evisceration. Ophthal Plast Reconstr Surg. 2013;29:281-85
2. Yazici B, Meyer DR. Selective antibiotic use to prevent post operative wound infection after external dacryocystorhinostomy. Ophthal Plast Reconstr Surg. 2002;18:33135
3. Sueiro SP, Hermida RVF, Gibelalde A, Indart LM. Study on the effectiveness of antibiotic prophylaxis in external dacryocystorhinostomy: A review of 697 cases. Ophthal Plast Reconstr Surg. 2010;26:467-72
4. Wladis EJ. Are post-operative oral antibiotics required after orbital floor fracture repair. Orbit. 2013;32:30-32
5. Wald ER. Periorbital and orbital infections. *Infect Dis Clin North Am*. 2007 Jun. 21(2):393-408, vi.
6. Bell EA. Clindamycin: new look at an old drug. *Infectious Diseases in Children*. October 2009
7. Charalampidou S, Connell P, Fennell J, et al. Preseptal cellulitis caused by community acquired methicillin resistant Staphylococcus aureus (CAMRSA). *Br J Ophthalmol*. 2007 Dec. 91(12):1723-4.