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| Table S1: Summary of studies reporting on Orbital cellulitis in children in the past 5 years. | | | | | | | | | | |
| Patient Information | Ocular Symptoms | Risk Factors | Sinuses involved | Abscess | CT or MRI | Treatment | Prognosis | Pathogen | Antibiotic | Reference |
| 23 patients，mean age 7.8 years) | Fever, swelling, proptosis | Insect bite and local trauma 32.2% | 24.5% | 63.3% | CT | Conservative or endoscopic sinus surgery | Recovered | ------ | Antibiotic | [1] |
| 8years,  male | fever, blurry vision, and pain | no | maxillary and ethmoid sinuses | no | CT and MRI | Conservative | Recovered | no | vancomycin and ampicillin-sulbactam | [2] |
| 11 years,  female | pain, proptosis and decreased vision | Sinusitis | ethmoid and maxillary sinuses | Yes | CT and MRI | endoscopic sinus surgery | Recovered | no | Antibiotic | [3] |
| 14 years,  female | pain, proptosis and decreased vision | no | ethmoid sinuses | Yes | MRI | Conservative and endoscopic sinus surgery | Recovered | Saksenaea vasiformis | liposomal amphotericin B, posaconazole and ceftriaxone | [4] |
| 16 years,  female | fever, decreased vision, and pain | no | no | no | CT | Conservative | Recovered | Staphylococcus aureus | ceftriaxone | [5] |
| 12 years,  female | Pain and proptosis | no | no | no | CT and MRI | Conservative and endoscopic sinus surgery | Recovered | aspergillosis | ceftriaxone, vancomycin and voriconazole | [6] |
| 13 years,  female | Headache, swelling | allergic rhinitis | ethmoid, sphenoid and maxillary sinuses | Yes | CT | Conservative and endoscopic sinus surgery | Recovered | Allergic fungal rhinosinusitis (Drechslera and Bipolaris) | voriconazole | [7] |
| 3 years,  male | Fever, swelling, proptosis | a fall while sucking on a lollipop | no | Yes | MRI | Conservative and surgery | Recovered | Gran- ulicatella adiacens and Atopobium parvulum | clindamycin and ceftriaxone | [8] |
| Mean age: 3years  Male (65%) | Redness and swelling | Insect bite | no | no | no | Conservative | Recovered | no | Antibiotic | [9] |
| 15 years,  male | fever, decreased vision, and swelling | Sinusitis and upper respiratory tract infection | ethmoid and maxillary sinuses | Yes | CT | Conservative and endoscopic sinus surgery | Recovered | Capnocytophaga sputigena | ceftriaxone, cloxacillin and metronidazole | [10] |
| 5 years,  male | Pain, swelling and proptosis | Sinusitis | ethmoid and maxillary sinuses | Yes | CT | Conservative and endoscopic sinus surgery | Recovered | estreptococo beta hemolítico del grupo A | ceftriaxone, vancomycin and ampicillin-sulbactam | [11] |
| 3 years,  female | swelling, red eye and mucopurulent discharge | no | no | no | CT | Conservative | Recovered | Chlamydia trachomatis | clindamycin and azithromycin | [12] |
| Mean age: 6.5 years  Male (71.4%) | swelling, erythema, ptosis, fever | Sinusitis, trauma and upper respiratory tract infection | Sinusitis | Yes (35%) | CT | Conservative (57%) and surgery (43%) | Recovered | Staphylococcus aureus (28.6%) | 28.6% of patients in this study: three antibiotics including Augmentin, metronidazole, ceftazidime, cefuroxime and vancomycin | [13] |
| 17 years,  male | decreased vision, proptosis, and swelling | penetrating injury with a metallic intraocular foreign body | no | no | CT | Conservative and surgery | poor visual | Clostridium perfringens | imipenem, metronidazole and gentamicin | [14] |
| 1 years,  male | swelling | syringing and probing with silicone intubation of the nasolacrimal duct | no | no | MRI | surgery | Recovered | aspergillosis and mucormycosis | amphotericin B and Voriconazole | [15] |
| Median age:2.9 years  Male (56.1%) | fever, decreased vision | Sinusitis, trauma and upper respiratory tract infection | Sinusitis | Yes (1.5%) | CT (13.6) | Conservative (98.5%) and surgery (1.5%) | Recovered | no | ceftriaxone | [16] |
| 15 years,  female | decreased vision, red eye, and swelling | Sinusitis, trauma | maxillary sinuses | no | CT | Conservative and endoscopic sinus surgery | Recovered | no | ceftriaxone and metronidazole | [17] |
| Mean age: 4 years  Male (56.7%) | Proptosis and swelling | sinusitis, skin infection and insect bites |  | Yes (11.7%) | CT (51.7%) or MRI (8.3%) | Conservative (91.7%) and surgery (8.3%) | Recovered | Hemophilus (3.3%), streptococcus (1.7%) and Staphylococcus aureus (1.7%) | Amoxicillin-Clavulanic acid, Cefotaxime, Fosfomycin, Vancomycin | [18] |
| Mean age: 3.9 years  Male (62%) | red eye, and swelling | sinusitis | sinusitis | Yes (15.8%) | CT (38.6%) or MRI (5.3%) | Conservative (74.2%) and surgery (15.8%) | Recurrence of orbital infection (5.3%) | Streptococcus pneumonie (3.5%) | cefotaxime or ceftriaxone) or a combined penicillin (ampicillin-sulbactam; amoxicillin/clavulanic acid) | [19] |
| Mean age: 4.7 years  Male (51.9%) | swelling | no | no | Yes (10.3%) | CT (20%) or MRI | Conservative (48%) and surgery (52%) | Recurrence of orbital infection (2.5%) | Streptococcus pyogenes (36%), Streptococcus anginosus (12%), Haemophilus influenza (8%), Streptococcus pneumoniae (4%) | Cefotaxime and Flu- cloxacillin | [20] |
| 3 years,  female | swelling, fever, complete ophthalmoplegia, ptosis and loss of vision | leukemia | Maxillary and ethmoid sinus | Yes | CT and MRI | Conservative and surgery | orbital exenteration, skull base resection, cerebral debridement with placement of an Ommaya reservoir | mucormycosis | liposomal amphotericin B (L-AmB) and posaconazole | [21] |
| Median age:1.5 years  Male (53%) | red eye, swelling and purulent nasal discharge | sinusitis | sinusitis | Yes (25%) | CT (9%) | Conservative (91.7%) and surgery (8.3%) | Recovered | Streptococcus pneumonia (10.6%) and Staphylococcus aureus (1.1%) | phenoxymethylpenicillin, amoxicillin or amoxicillin/clavulanic acid | [22] |
| 2 years,  male | red eye, and swelling | face paint | no | no | CT | Conservative | Recovered | Neisseria gonorrhoeae | Cefotaxime | [23] |
| 25-day-old  male | fever, swelling and oral cavity bleeding | tooth infection | Maxillary and ethmoid sinus | Yes | CT and MRI | surgery | Recovered | pan sensitive Staphylococcus aureus | linezolid | [24] |
| 12 years, No mention of gender | Headache, red eye, and swelling | sinusitis | maxillo-spheno-ethmoidal rhinosinusitis | Yes | CT and MRI | surgery | Recovered | E. coli | Vancomycin, Meropenem, Gentamicin and Ceftriaxone | [25] |
| 13 years,  male | edema, pain, Herpetiform vesicles and fever | Facial herpes zoster lesions | no | no | CT | Conservative | Recovered | Varicella zoster virus | valaciclovir | [26] |
| 2 years,  female | periorbital swelling, multiple dental caries, upper gum swelling | tooth infection | no | Yes | CT | Conservative and surgery | Recovered | no | amoxicillin/clavulanic acid | [27] |
| 12 years,  male | Headache, red eye, and swelling | resided at myocysticercosis endemic zone | no | no | CT | Conservative and surgery | Recovered | cysticercus | albendazole and steroid | [28] |
| 10 years, No mention of gender | periorbital swelling, purulent nasal discharge | sinusitis | ethmoid sinus | Yes | MRI | surgery | Recovered | Streptococcus pneumoniae | Cefotaxim, Metronidazol und Penicillin | [29] |
| Median age:5 years  Male (50.9%) | swelling, fever and decreased vision | Sinusitis or upper respiratory tract infection (68%) | sinusitis | Yes (16.6%) | CT (29.1%) or MRI (1.1%) | Conservative (82.3%) and surgery (17.7%) | Recovered | Haemophilus influenzae (2.6%), Streptococcus pneumoniae (1.3%) and Staphylococcus aureus (1.3%) | ceftriaxone and metronidazole | [30] |
| 13 years,  male | Headache, and swelling | sinusitis | frontal sinusitis | Yes | CT | Conservative and surgery | Recovered | haemophilus influenza | Antibiotic | [31] |
| Median age:3.5 years  Male (50.9%) | eyelid swelling and hot pain, exophthalmos, ocular movement limits | sinusitis (55%), facial skin furuncle (20%), upper respiratory tract infection (15%) and odontogenic infection (10%) | Maxillary and ethmoid sinus | Yes | CT | Conservative and surgery | Recovered | Staphylococcus aureus, Streptococcus anginosusand MRSA | cefoperazone and sulbactam sodium | [32] |
| Median age:5 years  Male (58.2%) | Fever, photophobia, ocular pain, proptosis and vison impairment | Sinusitis (40.2%), dental abscess (20.4%) and external ocular infections (12.5%) | Maxillary and ethmoid sinus | Yes (8.2%) | CT (49.2%) | Conservative (98.4%) and surgery (1.6%) | Recovered | Haemophilus influenzae (0.8%) and Staphylococcus aureus (0.8%) | Cefuroxime, Ceftriaxone, Co-amoxiclav and Flucloxacillin | [33] |
| 10 years,  male | eyelid swelling and fever | Pneumonia and sinusitis | sinusitis | no | MRI | Conservative | Recovered | H1N1 influenza virus | oseltamivir | [34] |
| Mean age: 3.7 years  Male (53.3%) | erythema | upper respiratory tract infection (27.6%), trauma (4.4%), insect bite (13.4%) and sinusitis (0.9%) | sinusitis | Yes | CT | Conservative | Returned to hospital after 48 hours (25.2%) | Staphylococcus aureus and Streptococcus pyogenes | co-amoxiclav (61.6%), amoxycillin (5.8%), cloxacillin (7.2%), cephalexin (5.2%) and clarithromycin (0.3%) | [35] |
| 6years,  male | periorbital edema, erythema and fever | strabismus surgery | no | no | CT | Conservative | Recovered | Streptococcus pyogenes | ampicillin/sulbactam and vancomycin | [36] |
| 11 years,  female | infraorbital redness and swelling | no | no | Yes | MRI | Conservative and surgery | Recovered | Saksenaea vasiformis | Posaconazole | [37] |
| 8years,  male | swelling, tooth ache, fever | tooth infection | maxillary, ethmoid and sphenoid sinusitis | no | CT | surgery | Recovered | no | Antibiotic | [38] |
| A total of 72 children | swelling | sinusitis | sinusitis | Yes | CT (68.1%) | Conservative (83.3%) and surgery (16.7%) | Recovered | Staphylo- coccus aureus, Streptococcus pyogenes, and Streptococcus pneumoniae | ceftriaxone (with or without metronidazole), and co-amoxiclav | [39] |

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