Sandwell and West Birmingham Hospitals NHS
NHS Trust

MANAGEMENT OF ORBITAL CELLULITIS AND ORBITAL ABSCESS (ADULTS)

Policy author	Consultant Ophthalmologist Consultant ENT
Accountable Executive Lead	Clinical Director
Approving body	Relevant Directorate Governance Group Drugs and Therapeutic Committee
Policy reference	SWBH/Ophth/038

Overall purpose of the guideline
To provide recommendations to assist in the management of orbital cellulitis.

Principal target audience
ENT, Ophthalmology, Imaging and Microbiology for optimal care for patients.

Application
The guideline applies to adult patients.

Scope
The guideline applies to adult patients.

National Guidance incorporated
n/a

DOCUMENT CONTROL AND HISTORY

Version No	Date Approved	Date of implementation	Next Review Date	Reason for change (e.g. full rewrite, amendment to reflect new legislation, updated flowchart, etc.)
1	November 2009	November 2009	November 2012	
2	July 2014	July 2014	July 2016	No changes, new format
3	December 2014	December 2014	December 2016	Removal of all reference to management of children as there is now a separate guideline for children

Drugs marked in **orange** should be used with caution in penicillin allergy and avoided if there is any history of anaphylaxis to penicillin; drugs marked in **green** are safe in penicillin allergy

1.0 Introduction

Bacterial orbital cellulitis is a medical emergency that, if not treated urgently, may lead to blindness and even death. Acute sinusitis is the most common source of infection but trauma, lid infections or endogenous spread may also contribute.

An integrated multi-disciplinary strategy is key to successfully managing this disease. Close coordination between ENT, Ophthalmology, Imaging and Microbiology is needed to ensure optimal care for these patients.

Any patient with suspected orbital cellulitis should receive the first dose of antibiotic intravenously at the earliest opportunity (before sending for scans etc) and an ophthalmic assessment should be arranged as soon as practically possible if the patient is admitted via ENT.

2.0 Aim/Purpose

The aim of the guideline is to provide recommendations to assist in the management of orbital cellulitis.

3.0 Definitions

Orbital septum This is a dense fibrous membrane that originates from the periosteum of the orbital rim peripherally fuses with the tarsal plates centrally and separates the orbital contents from the eyelids

Orbital cellulitis Orbital cellulitis is an extremely serious infectious process that directly or indirectly affects orbital contents behind the orbital septum.

Pre-septal cellulitis This is a more common but less serious infection of the skin and soft tissues of the eyelids anterior to the orbital septum. Occasionally pre-septal cellulitis can progress to orbital cellulitis

4.0 Pathophysiology

Three main mechanisms are recognised:

4.1 Spread from surrounding sinuses. Ethmoid sinuses are the most common source of infection followed by frontal sinus.

4.2 Direct injury to orbit

4.3 Endogenous spread in immuno-compromised patients

5.0 Criteria for admission

All patients with a clinical diagnosis of orbital cellulitis MUST be admitted and an ophthalmic opinion sought as soon as possible.

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For patients that are difficult to examine (young children) and orbital cellulitis cannot be ruled out, they should also be admitted and started on IV antibiotics.

6.0 Management

The management of orbital cellulitis and sinusitis differ in adults and children. See separate guidelines for management on children.

In adults the infection may be polymicrobial and anaerobes may also be present where there is a history of chronic sinus disease. Pre-disposing history is more varied and surgical drainage of sinuses and abscess is more frequently required.

A CT scan is to be arranged at the earliest after administration of the first dose of intravenous antibiotics. If vision is deteriorating rapidly the orbit must be surgically decompressed as soon as possible.

The commonest organisms isolated from blood, the paranasal sinuses or abscess are:

- Streptococcal species such as *Streptococcus milleri, pyogenes, pneumoniae*
- *Staphylococcus aureus*,
- *Haemophilus influenzae* (type b)

7.0 Choice of surgery

Drainage of a sub-periosteal abscess is urgently required.

The main surgical objective is to drain the pus adequately, reduce intra-orbital tension and obtain samples for culture. Send sample of pus rather than pus swab to microbiology.

8.0 Implementation

A copy of the guidelines will be made available on the intranet.

9.0 Audit

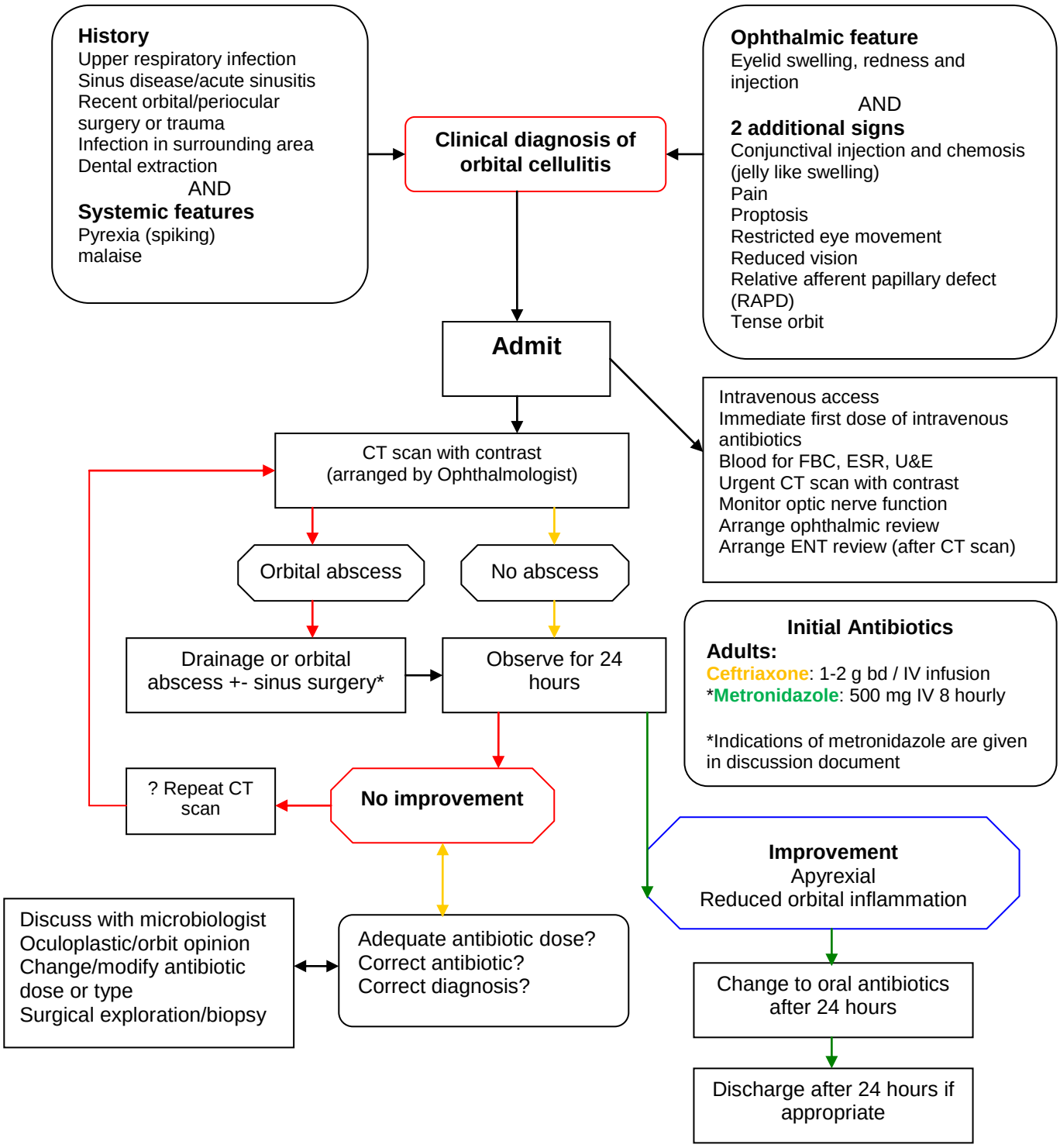
Audit compliance with guidelines following 18 months of implementation of guideline

10.0 References

Peden MC, Neelakantan A, Orlando C, Khan SA, Lessner A, Bhatti MT. Breaking the mold of orbital cellulitis. Surv Ophthalmol. 2008;53:631-5

Appendix 1

Management of Orbital Cellulitis in Adults



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