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Facial Swelling of Odontogenic Origin

Purpose

Clinical Practice Guidelines (CPG's) are systematic developed statements intended to support clinicians in providing high quality, best practice evidence based care. They are not intended to be wholly prescriptive or a legal directive for clinical decisions. While their application is an acceptable ground for patient care, clinicians should carefully consider the individual circumstances and the specifics of their work environment in conjunction with these guidelines. Selection of alternative treatment modalities, based on clinical judgment and/or specialist advice, may be justified in various clinical scenarios. In such cases, justification must be clearly documented in the patient record.

This Clinical Guideline plans to:

- Standardise the way in which patients with acute infective facial swellings are assessed and treated;
- Establish standardised treatment choices depending on individual patient's presentation; andAssist the dental clinician in an emergency situation to choose an appropriate course of action in cases when patients cannot be satisfactorily treated.

Guideline

Definition of facial swelling:

In this clinical guideline the term facial swelling refers to acute infective facial swellings of odontogenic origin rather than developmental, traumatic or neoplastic facial swellings.

Facial swellings of unknown cause:

Any patient presenting with a swelling the cause of which cannot be easily diagnosed (and if applicable, treated), should be referred to the Oral and Maxillofacial Surgery and/or Oral Medicine Department, Royal Dental Hospital of Melbourne (RDHM). Completion of the appropriate Specialist Services Referral form is required and, depending on level of urgency, posted or faxed to the RDHM.

Timing of facial swelling assessment:

All patients with facial swelling should receive **immediate attention and be assessed for airway compromise.** In the case of swellings identified by dental therapists (DT) or Oral Health Therapists (OHT), referral to a dentist should be arranged. If there is no dentist available, and the situation is urgent and requires immediate assessment, the Oral and Maxillofacial Surgery Department, RDHM may be contacted by telephone for advice, telephone 9341 1277.

Acute infective facial swellings may also be referred to an Accident and Emergency department in an acute hospital when distance or urgency is a consideration.

Decision making Criteria

Medical history:

The patient medical history should be assessed for conditions that compromise the host response such as uncontrolled metabolic disease, immune- suppressive disorders or immunosuppressive therapies. These patients require early vigorous therapies due to the potential of infections to spread more rapidly. Any previous antibiotic treatment for the facial swelling needs recording.

History taking – questions regarding

how long swelling has been present	numbness of lip or face
if the swelling is getting larger or smaller	presence of fever
pain	breathing difficulty
discharge	swallowing difficulty & restricted mouth opening (indicate more serious swellings requiring more urgent treatment.)
trismus	The general state of malaise (indicates a more generalized reaction.)

Clinical examination

Extra-oral notations include size, shape, attachments of any swelling. Swellings around the jaw may be tender or non-tender, soft or firm, fluctuant or oedematous, or red and hot. Swelling limiting eye opening requires more urgent treatment. Facial, submandibular and cervical lymph nodes should be palpated and any enlargement or tenderness noted. Dizziness (hypotension), decreased heart rate (bradycardia), pallor, sweating, or cold peripheries may indicate more generalised sepsis requiring more urgent treatment.

Intra-orally, the buccal and labial sulci, the tongue, floor of mouth, pharynx and palate should be inspected and size of swelling noted. Any teeth present should be inspected for caries, deep restorations, previous endodontic treatments, cracked tooth, mobility impactions and trauma. If there is any draining pus, this could be expressed and recorded.

Special investigations

Mobility and tenderness to percussion, pulpal sensibility tests and radiographs (intraoral or extra oral) are essential aids in diagnosis of a facial swelling. If unable to take intraoral radiographs due to trismus, the patient should be referred for extra oral radiographs, e.g. orthopantomograph (OPG).

Diagnosis

Diagnosis plays an important role in the management of any facial swelling. Dental disease is the underlying cause of most inflammatory swellings that occur in and around the jaws. Facial swelling may be caused by an acute infection and resultant inflammatory reaction. The cardinal local signs of inflammation include redness, heat, swelling, pain and loss of function. Fever, increased respiratory rate and increased pulse are systemic symptoms of inflammation and generally indicate the spread of an infection

Differential diagnosis should include

- Inflammation/infection from teeth and periodontium (most common cause)
- trauma,
- neoplasm,
- infections originating in skin,
- salivary glands,

Management
steps:

1. determining the severity of infection,
2. evaluating the patient's host defense mechanism and
3. Determining whether the patient should be treated by the General Dentist or requires referral to an Oral and Maxillofacial Surgeon.

Management:

Facial Swelling indicating need for urgent attention:

Risk to airway compromise is present.

Hospital requirements for IV antibiotics and general criteria on assessment:

- Is the patient having difficulty breathing (dysponea) or swallowing (dysphagia) or noisy breathing (Stridor)?
- Does the patient have trismus? Can't open more than 2cm?
- Is the swelling closing the eye?
- Has it worsened in the last hour?
- Is it spreading submandibularly?
- The patient is febrile/has a fever in addition to above?

If the above apply, refer directly to your local emergency department as patient will need administration of IV antibiotics or surgical drainage.

Trismus of infective origin where the patient cannot open their mouth more than 2cm[1] with or without systemic signs being present, undertake referral to a hospital emergency department due to the the risk of respiratory issues and need for IV antibiotics.

In **children**, facial swelling with dehydration and fever requires referral to an emergency Department of an acute hospital for medical management.

Call an ambulance if the airway is compromised.

Facial swelling requiring non urgent attention:

Treatment can occur on the same day when a localized buccal or lingual swelling is present, the airway is free and there are no systemic signs and spread to adjacent tissues. This also includes cases of cellulitis[2]. If the patient is uncooperative pain killers/analgesics are indicated.

Treatment modalities:

The management principles of localized infection are the removal of the cause and establish and maintain drainage. This generally involves extraction, pulpal extirpation or periodontal treatment of the offending tooth, and possible surgical incision of a fluctuant localized swelling. The provision of of medication including antibiotics and analgesics may be appropriate if clinically indicated., Note that the majority of the treatment described is beyond the scope of a DT and OHT and therefore should be undertaken by a dentist.

Antibiotic prescription[1]

Antibiotics are indicated when systemic signs such as fever and malaise are present and spread of the facial swelling has not occurred. If the patient is immunocompromised, then the patient should be prescribed antibiotics and pain relief and arrangement made for appropriate review in the clinic or referral to a treating specialist within an appropriate timeframe. The use of antibiotics may help retard the systemic spread of odontogenic infections; they are an adjunct after surgical removal of the cause of infection and not a replacement. Their selection should be judicious and minimize the risk of developing resistance to current antibiotic regimens.

Active dental treatment should not be delayed on the basis that local anaesthetics will not be effective until antibiotics are given. Patients should be warned of the signs and symptoms of an escalating infection and advised to attend their local emergency hospital department if these occur.

Post -operative evaluation:

Patients should be advised to contact the clinic urgently if their condition does not improve or deteriorates. It is prudent for patients to be reviewed within 3-5 days for the resolution of facial swelling and referred to the Oral Surgery department at RDHM if not resolved.

Consider referral to RDHM Oral and Maxillo-facial Surgery department if:

- The dentist has a lack of experience in incision and drainage;
- Difficult extraction is predicted;
- Patient is not co-operative;
- Patient is medically compromised and as a consequence, treatment cannot be undertaken locally or requires specialist management.
- Patient returns with persistent infection 3-5 days after surgical and antibiotic therapy has occurred.
- Airway is free.

If an urgent referral is required arrangements should be made directly with the specialist department at RDHM. Within normal working hours, on-call Oral and Maxillofacial Surgery personnel at the RDHM may be called on (03) 9341 1277 for advice or assistance.

Completion of the appropriate Specialist Services Referral form is required and depending on level of urgency, posted or faxed to the RDHM. If out of hours / during weekend, the Emergency Department of the RDHM should be contacted who will then liaise with the Oral and Maxillofacial registrar on call. Alternatively, Accident and Emergency departments in major acute hospitals should be considered if distance and timing are a consideration.

For all patients attending RDHM with an acute infective facial swelling, advice/ guidance can be sought employing the following protocol:

- Adults attending during business hours- contact the OMFS unit directly on 9341 1277.
- Adults attending the after-hours Emergency Service (ES) contact the OMFS clinician on call- see ES noticeboard.
- Children attending during business hours- contact the Paediatric unit or page the Paediatric registrar on call at the RCH- Ph 9345 5344.
- Children attending after hours- page the Paediatric registrar on call at the RCH- Ph 9345 5522."

Definitions

Nil

Revision date

December 2020

Policy owner

Clinical Leadership in Practice Committee

Approved by

Chief Oral Health Advisor

Date approved

December 2017

References and related documents

1. Therapeutic Guidelines-Oral and Dental 2012 Version 2
2. Severe odontogenic infections-IC Uluibau, * T Jaunay, † AN Goss Australian Dental Journal Medication supplement 2005;50:4
3. Contemporary Oral and Maxillofacial Surgery 5th edition. Mosby Elsevier

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Clinical Guidelines

QUESTIONNAIRE

Answer the following questions about what you have just read.
1 Scientific CPD point is available on completion.

YourName:

Email Address:

Title of Clinical Guideline:

Question 1
List 3 key issues this Clinical Guideline reinforced for you?

Question 2
Were there areas of the Clinical Guideline you were previously unaware of? If yes, please list them.

Question 3
How will you share this information with your peers?

Click the button below to submit your answers for verification.