Facial pain has a long list of possible causes but the diagnosis can often be made by a good history and examination. The common causes are often benign and self-limiting but it is essential not to miss those conditions that require urgent treatment – e.g., temporal arteritis, or early diagnosis – e.g., malignancy. There is a tendency to overdiagnose bacterial sinusitis when the real cause may be a viral upper respiratory tract infection or, much less frequently, a more serious cause of facial pain.

Causes[1]
- Sinus: sinusitis, trauma, carcinoma.
- Nose: upper respiratory tract infection, nasal injury and foreign bodies.
- Ear: otitis media, otitis externa.
- Mastoid: mastoiditis.
- Teeth: dental abscess.
- Local soft tissue infection: cellulitis, erysipelas.
- Neurological: trigeminal neuralgia, herpes zoster, post-herpetic neuralgia.
- Parotid gland: mumps, other causes of parotitis, abscess, duct obstruction, calculi, tumour.
- Eye: orbital cellulitis, glaucoma.
- Temporomandibular joint dys/fuction and pain.
- Cluster headaches, migraine, medication-overuse headache.
- Temporal arteritis.
- Tumours: nasopharyngeal, oral, posterior fossa, brain stem gliomas.
- Bone: maxillary or mandibular osteitis, cyst.
- Atypical or idiopathic facial pain: may be worse with fatigue or stress; often linked with depression or mood disturbance.
- Lung cancer (upper lobe).[2]

Clinical assessment[1, 3]

History
- Site:
  - Establish if unilateral or bilateral and whether it relates to a nerve distribution. Unilateral pain occurs in dental conditions, trigeminal neuralgia, salivary gland conditions. Pain may be either bilateral or unilateral in sinus infection, temporomandibular disorders, headaches and giant cell arteritis.
  - Pain in the region of the ear may be referred from the skin, teeth, tonsils, pharynx, larynx or neck.
  - Tenderness over the maxilla may be due to sinusitis, dental abscess or carcinoma.

- Character:
  - Establish whether it is continuous or episodic and the severity and nature of the pain.
  - Trigeminal neuralgia: intermittent sharp, severe pain in the distribution of the divisions of the trigeminal nerve.
  - Infections of teeth, mastoid and ear: often dull, aching quality.

- Precipitating factors:
  - Precipitated by food or chewing: dental abscess, salivary gland disorder, temporomandibular joint disorder or jaw claudication due to temporal arteritis.
  - Trigeminal neuralgia: can be precipitated by various factors, including eating, talking and touching or washing the face. Even the slightest touch of the skin can cause intense pain.

- Associated symptoms:
  - Obstruction of the lacrimal duct by nasopharyngeal carcinoma may cause watering of the eyes.
  - Otorrhea and/or hearing loss suggest an ear or mastoid cause.
  - Nasal obstruction and rhinorrhea may be due to maxillary sinusitis or carcinoma of the maxillary antrum. Carcinoma of the maxillary antrum may also present with unilateral epistaxis.
  - Proximal muscle weakness and pain may be due to polymyalgia rheumatica, associated with temporal arteritis.
  - Intermittent presence of a lump around the jaw may suggest salivary duct obstruction.

- Impact of pain: effect on mood, sleep, eating and quality of life.

Examination
- Unilateral erythema and vesicles in the distribution of the trigeminal nerve: herpes zoster infection (may not be present in the early stages of the disease).
- Localised erythema or swelling: localised infection or carcinoma.
- Inspection of the nose and throat may demonstrate a nasopharyngeal tumour.
- Introral inspection may reveal any obvious pathology but may require dental expertise.
- Examine the cranial nerves.
Facial palsy: may be due to a tumour of the parotid gland.
Tenderness of the superficial temporal artery associated with temporal arteritis.
Tenderness over one or more sinuses may indicate sinus infection.
Cervical lymphadenopathy: infection or carcinoma.
Lumps over the parotid area may indicate salivary gland tumours or blockage of the gland (whether the lump is intermittently present or continuously so is helpful).
Pain or crepitus on movement of the jaw may indicate temporomandibular joint dysfunction.

Investigations
Further investigation will be guided by the results of findings on history and examination.

- FBC: raised white cell count in infection or malignancy.
- ESR, CRP: increase in infection, malignancy, temporal arteritis.
- X-rays:
  - Dental x-rays can be carried out by community dentists where there is suspected dental pathology.
  - Opacification of the sinus and destruction of bone with carcinoma of sinuses.
  - Opacification may also occur in sinusitis.
  - Mastoid films may show opacification in cases of mastoiditis.
- Ultrasound scans are useful as first-line investigation for suspected salivary gland pathology.
- MRI or CT scans may be necessary for some conditions.
- Sialography: parotid conditions - eg, duct stones, sialectasis.
- Fine-needle aspiration: parotid tumours.

Management
The essential aspect of management in primary care is to make an accurate diagnosis. The management will then depend on the identified cause of facial pain.

- The first-line treatment for atypical facial pain is a tricyclic antidepressant such as amitriptyline. Fluoxetine and venlafaxine can also be considered.\(^1\) Cognitive behavioural therapy (CBT) may be combined with antidepressant treatment.\(^1\) Peripheral subcutaneous field stimulation may be an alternative for patients with intractable pain.\(^5\)
- Specialist referral (usually to a maxillofacial clinic, unless clinical findings suggest a diagnosis where ENT/community dentistry/neurology/rheumatology referral may be more appropriate) should be made according to local guidelines. One such guideline suggests referring patients who have: \(^6\)
  - Facial pain persisting for more than three months.
  - Persistent temporomandibular disorders not responding to simple analgesics, lifestyle changes and reassurance.
  - Persisting pain affecting function and causing distress.
  - Widespread pain.
  - Pain which is part of systemic disease.
  - Significant psychological or social problems.
  - Co-existing mental health problems which have an impact on treatment.
  - Compliance problems - eg, side-effects.
  - A recognised pain syndrome such as trigeminal neuralgia.
  - Patients with special needs - eg, learning disabled, communication problems.

Further reading & references

3. Trigeminal neuralgia; NICE CKS, December 2014 (UK access only)
6. How to refer - Facial pain; University College London Hospitals

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