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\*\* facial spaces are referred to the fascia around the face ,,and most of them are dental in origin :either from caries ,periodontal problems ,infective cyst or pathology ..etc

\*in few cases they spread down to facial spaces ..

We open to your mind a Question :How can a low grade infection cause a facial space infection ?how could that happen ?

In the pre –antibiotic care ..at that time ..patient end being dead person

But post –antibiotic care ..patient wouldn’t die of facial space infection ..

As u know ,,dental infections are caused by mixed flora ,,it’s not one specific bacteria that cause this ,,which are :

Aerobic gram +ve cocci ,Anerobic gram +ve cocci , Anerobic gram –ve rods ..

So, half of the cases are caused by mixed infections ..

But how we can end up having facial space infection ??

-usually if we look at the patho- physiology how it happen .it’s about inoculation of bacteria ,go down to the alveolus ,penetrate the cortex ,release enzymes that break the tissues ,,and other bacteria will follow it after the first one has make the environment comfortable for it ..this is the cellulites stage ...note that cellulites is the general inflammation of the tissues but abscess is localized swelling that forms pus ..

Metabolic product of streptococci make the environment comfortable by decreasing PH and consuming the O2 ,,then anaerobic bacteria has the responsibility of liquefaction , formation of pus and purulence by collagenase enzyme ,,as the collagen is formed abscess is formed …

Clinically this appeared as edema then cellulites and abscess finally ..

Edema as first 2 days ..then progress to cellulites which is diffused not localized. larger in size..and hard in texture..

But abscess is localized smaller ,,painful and soft in centre ,,has pus formation ,no blood ..

Bacteria at edema stage is aerobic bacteria .mixed bacteria at cellulites stage ,,and anaerobic bacteria at abscess stage …

Seriousness is associated with **cellulites stage** cuz it’s diffused not localized ..

The source is usually is necrosis of pulp or periapical inflammation cuz melting of bone and radification on x-ray ,,widening of periodontal space ,,if not cured and environment was comfortable then it will perforate the cortical bone ,,lingually or buccally according to the path of least resistance ,,if the infection was at the buccal area the bacteria will go to buccal area ,,but if u do RCT treatment at early stages then u remove the cause ,so cure the source ,it’s not enough to treat the symptoms only and that’s depend on restorability of the tooth and virulence of infection ..

\*vestibular space abscess is the most common to see it in our practice ..

What’s the management ?

Always before management u need to **diagnose ,,u** need to assess ur patient ,,look at the general appearance of the patient and his vital signs ,,not only on his mouth ,,u can determine if it’s toxic or septic ’involving the blood” appearance ,,

**\*history is important ,,**difficulty in swallowing and trismus ,and fever.. this tell u if these features is beyond ur management and u need to admit patient to hospital in some cases !

In facial space infection management ,surgery is always there ,then comes the medical treatment ,then the antibiotics then the routes of administering the antibiotic then the follow up ..

**The severity of infection** depends on the anatomical location of the infection …

***\*\*\*What are the facial spaces???***

-it’s a potentially spaces not real spaces ..

-between ***layers*** of fascia , superficial fascia and deep fascia ..

-filled with loose areolar or connective tissues ….

-created with pathology by expanding of cellulites or abscess..

-ranked from low risk to high risk depending on **anatomical location** ..

-scale from 1-3

-scale one low risk ..scale two moderate risk ..scale three high risk

\***low risk scale one are** :vestibular spaces +buccal spaces +canine spaces.. not mean that they are not important ,but they don’t cause effect on airway or oral cavity ..Managed by oral antibiotic or extraction of source or incision and drainage

\***moderate risk scale two are** :closer to airway ,and closer to cause functional problems like trismus ,or disrupt swallowing ,,like massetric spaces and peri-mandibular spaces

\***high risk scale three are** : disrupt vital stucture ,,and obstruct airways like lateral pharyngeal +retropharyngeal +prevertebral ..they are around airways ..

**Buccal space infection** : above or below the attachment of buccinators muscle ,,between buccinators muscle &fat &cutanous &subcutaneous structure ..extend from outer corner of mouth to anterior border of masseter ,,outside buccinators ,,doesn’t cross the corner of the mouth ,,or lower border of mandible …

**Canine space infection** :tip of the canine between elevator anguli oris ,,and inferior orbicularis oris…

Note :molars and premolars on both side associated with buccal spaces ..

**Perimandibular spaces** :which are submandibular +sublingual +submental ..

**Note : above** mylohyoid :is sublingual space

**Below** mylohyoid :is submandibular space

**Below mentalis muscle +below** platysma is :submental space

---if u can’t feel lower border of mandible +hardness in texture ,it’s submandibular space infection..

---if u can feel lower border of mandible ,it’s buccal space infection..

***The END..***