CASE DISCUSSION

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Instructor: Dr. 趙劭倫
2012-07-09

Patient profile

- Age: 57 years old
- Gender: male
- Admission date: DAY1 at about 07:42 a.m.
- Vital sign: T/P/R: 36.4°C/80bpm/16cpm; BP: 141/87mmHg; Consciousness: E4V5M6; SpO2: 99%

Chief complaints

- Right facial pain for 1 day.

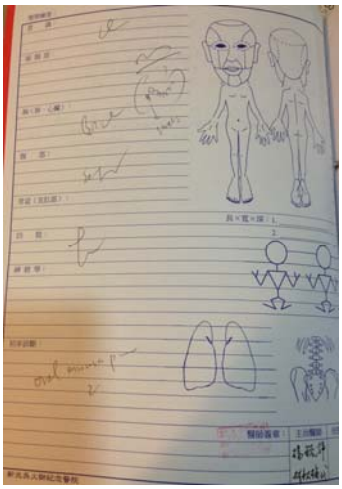
PRESENTING ILLNESS

- denied any headache, nausea, vomiting, extremity weakness, abnormal sensation, or any other discomfort.
- denied any recent trauma or fever
- Previous headache history(+)

Past history

- Drug allergy History:
  - No Known allegy to medication and food
- Recent travel History:
  - No Travelling to foreign country in recent 1 year
- Smoking History:
  - 1PPD for >10years
- Alcohol History:
  - Social drinking only
- Systemic disease:
  - Deny Hypertension and DM in the past
- Surgery History: nil

PE



IMPRESSION

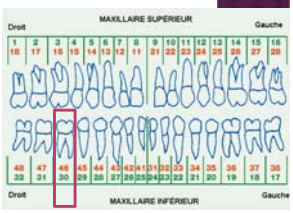
- Oral mucosa pain , cause?

ER ORDER-1

- 7:50 Consult Dentist

牙科會診

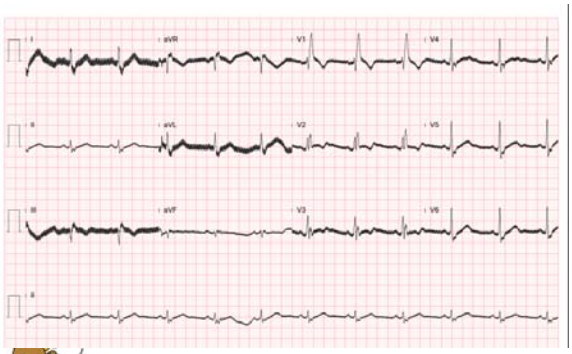
- 病人自述右臉頰內側之前有腫脹和小洞，擠時有血流出，但當場口內並沒有看見小洞和腫脹，病人也不知痛點在哪裡，因此無法斷定為dental origin
- Take 46 PA film
  - X-ray: radiolucency over 46 root area
- Imp: 46 chronic apical periodontitis
- Suggest Ampicillin 1# tid po x 3 days
- Keto 1# tid po x 3 days
- Return to clinics



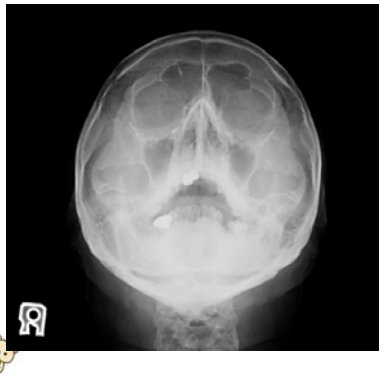
ER ORDER-2

- 8:42
- Still pain after local treatment, referred pain cannot be ruled out
  - ECG, Hb, WBC/DC, BUN/Cr, Na/K, AST, CK/CK-MB, TnT I
- 9:06
- VAS: 7-8
  - Keto 1 amp st IM
  - Neck soft tissue X-ray and Water's view

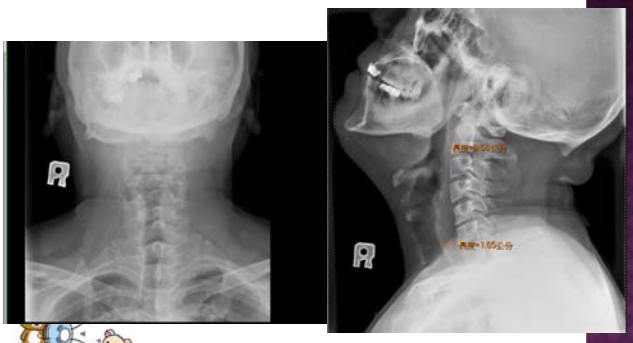
DAY1 08:41



WATER'S VIEW



NECK SOFT TISSUE VIEW



X-RAY SOFT TISSUE NECK (LATERAL)

1. Widened pre-vertebral soft tissue shadow
   - **a. > 7 mm at C2 vertebra**
   - **b. > 14 mm at C6 vertebra below 14 years**
   - **c. > 22 mm at C6 vertebra above 14 years**
2. Presence of air-fluid level/ gas (acute cases)
3. Homogenous pre-vertebral shadow (chronic)
4. Straightening of cervical spine curve due to spasm of pre-vertebral muscles

LAB DATA

CBC/DC		PT/aPTT		Biochemistry	
WBC (x10³/uL)	11.8	PTp	**11.7**	GLU (mg/dL)	
RBC (x10⁶/uL)		PTc		GOT (U/L)	25
Hb (g/dL)	16.4	PT (INR)	**1.12**	BUN (mg/dL)	**11**
HCT (%)		PTTp	**37.3**	Cr (mg/dL)	0.9
MCV (fl)		PTTc		Na (meq/L)	140
MCH (Pg)				K (meq/L)	3.8
MCHC (%)				CPK (u/L)	101
PLT (x10³/uL)				Troponin I (ug/L)	0.012
Seg (%)	54.1			CK-MB (U/L)	13
Lymph (%)	34.6			CRP	0.409
Mono (%)	9.3				
Eosin (%)	1.7				
Band (%)	**0**				

ER ORDER-3

- DAY1 09:51
  - Lab data/ EKG: negative
  - Water's view: no sinusitis
  - Neck soft tissue view: no obvious deep neck infection sign
- Still pain after Keto 1 amp im
- **Need to r/o intracranial lesion**
- Arrange brain and neck CT with/without contrast

NS CONSULTATION

- CT with/without contrast showed right MCA area nidus lesion with draining vein.
- Imp: **Right dural AVF or AVM**
- Plan:
  - Arrange admission
  - Pain control
  - Do MRI and DSA
  - Inform family the risk of rupture

ADMISSION COURSE

DAY1

- Pain control with Ultracet 1# tid po
- Control BP with Ataanal 1# SL prn id SBP>160 mmHg

DAY2

- MRI and angiography was done
- Still facial pain with swelling, consult ENT

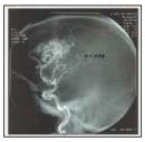
AVM: grading the surgical risk

1. Size . . . . . (0 - 3, 3 - 6, >6 cm)
2. Location . . . . (+/- eloquence)
3. Venous drainage . (+/- deep)

Spetzler, Martin. J Neurosurg. 1986;65:476-483.

AVM: grading the surgical risk

Total # of points	surgical risk
1	very low
2 - 3	low
4 - 5	high
> 5	very high



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ENT CONSULTATION

Present illness course

DAY1	ER: CT: AVM, right sylvian fissure => admission
DAY2	MRI+ angiography: Right AVM, Spetzler-Martin Classification 3 => Suggest embolization
DAY4	MBD with Tegretol 0.5# bid, Ultracet 1# tid
DAY6	OPD f/u: No more facial pain
DAY20	Referred to CGMH Dr. Lin

DISCUSSION

REFERRED OROFACIAL PAIN AND ER ASSESSMENT

35 **Regional and Referred Orofacial Pain**

Edmond L. Truelove, DDS, MSD

BACKGROUND

- The process leading to referral of sensations is not completely understood
  - peripheral and central neural synaptic connections
  - multiple converging ascending sensory and nociceptive paths within major nerves serving regional areas
  - convergence of nerves supplying distant sites
  - interneuronal communication in the brain stem

REFERRED CARDIAC PAIN

- the most important sources
  - During attacks of angina in ischemic heart disease
- Typically, remission of pain when the crisis is over.
- left body of the mandible, left ramus, left mandibular teeth
- Other referring areas on the left side: lateral neck, shoulder, elbow, biceps, back
- most frequently onset during periods of exertion, exposure to cold, stressful events, and shortly after meals.

- sensory symptoms can be referred during ischemic episodes
  - cold sensitivity in the teeth
  - tightness in the muscles of mastication
  - feelings of pressure within the mandible or maxilla, neck, or the dentition of the left side
  - sensations of paresthesia and tingling that create the urge to rub or massage
- it is not uncommon for the patient to report **temporary resolution** of symptoms after dental therapy with a return of symptoms later that are slightly different

WHAT SHOULD ER DO?

- early to rule out cardiac disease in those within the risk group
  - family history, obesity, high-fat diet, tobacco use, hypertension, alcoholism, age, and a sedentary life style.
- use of nitroglycerin during symptom attacks may provide additional information
- EKG
- Lab: CK, CK-MB, Troponin I

PAIN REFERRED FROM NEOPLASTIC DISEASE OF THE PHARYNX, NASOPHARYNX, BASE OF TONGUE, AND HYPOPHARYNX

- The site of referral can vary, depending on the tissue involved
- Typically, symptoms are ill-defined and may increase during swallowing, jaw function, and eating or speaking.
- Nasopharyngeal lesions even more frequently refer pain to the ear and TMJ region, the posterior of the maxilla and maxillary teeth.
- Hearing changes are sometimes reported.

WHAT SHOULD ER DO?

- accompanied with paresthesia, numbness, or other signs of neuropathy, it is important to consider malignant disease as the referral mechanism.
- History findings
  - long-standing tobacco use, chronic alcohol consumption, prior head and neck radiation or chemotherapy for non-head and neck malignancy or for leukemia or lymphoma, and bone marrow transplant or organ transplant.
- Consult ENT, Neurologist
- CT,MRI

PAIN REFERRED FROM LUNG LESIONS

- upper lobes of the lung have been reported to refer pain to the face and jaws.
- mechanism is most likely through input of the vagus, which refers the pain to the face
- facial pain without local pathology and a positive history of lung disease or tumor should be evaluated for recurrence.

PAIN REFERRED FROM INTRACRANIAL LESIONS

- benign or malignant tumor
- vascular lesions, such as aneurysms
- demyelinating diseases, ex.multiple sclerosis
- post-traumatic brain injury
- disorders of cranial fluid pressure

- diffuse bilateral pain that is most often characterized as "headache."
- pain may be unilateral or bilateral with pain dominant on one side, can be felt in the temporal region, leading to an erroneous diagnosis of myofascial pain
- Localized lesions can also refer pain along the distribution of the neural path affected
  - tumor or vascular pressure on the trigeminal nerve may cause neuralgia-like (paroxysmal) or persistent pain peripherally in the nerve and into the jaws and teeth.

- If neuralgia-like, can be triggered by light touch and stimulation that is not usually nociceptive.
- Change of position (sitting, bending over, reclining)can increase or decrease some intracranial sources of referred facial pain.
- Diagnosis is often confused with tension-type headache(TTHA), migraine, myofascial pain, sinusitis, and trigeminal neuralgia.

WHAT SHOULD ER DO?

- Symptoms that cannot be fully explained by local findings require assessment to rule out CNS pathology
  - Consult neurologist
  - Brain CT
  - MRI of the brain
  - lumbar puncture

PAIN REFERRED FROM DISORDERS OF THE EARS, NOSE, THROAT, AND SINUSES

- The most common source of referred pain is disease of the sinuses.
  - easy to mistake sinus pain for odontogenic pathology
  - percussion and biting sensitivity in one or more teeth in the quadrant of the maxilla adjacent to the inflamed sinus
  - neuronal sensitization of the second division of the trigeminal nerve can trigger hypersensitivity of dental innervationement

WHAT SHOULD ER DO?

- History taking:
  - episodic or recent symptomatic sinus disease
  - respiratory allergies
  - nasal discharge
  - nasal obstruction
- PE findings:
  - pain with extraoral palpation of the maxillary and or frontal sinus
  - palpation tenderness with intraoral and extraoral palpation over the maxillary sinuses

REFERRED PAIN FROM THE ESOPHAGUS

- Less is known about symptom referral to the face
- In general, symptoms are provoked by neoplastic disease, esophagitis caused by reflux, and by esophageal muscle pain and myalgia generated by dysfunction in swallowing and by esophageal strictures.
- on the lateral wall of the esophagus can produce unilateral referral to the jaws and mouth, and lesions near the midline can produce bilateral symptoms.

- usual region of referral is the posterior aspect of the tongue and ramus of the mandible
- Symptoms often increase after sleeping in a reclining position. Symptoms also increase with acidic and spicy foods or excessive swallowing during eating or habitual activities.
- referred site are improved with trials of antacids, coating agents, antireflux medications, topical anesthetic rinses

REFERRED PAIN FROM CERVICAL MYOFASCIAL TRIGGER POINTS AND DEGENERATIVE DISEASE

- Under normal circumstances referred cervical pain is located in the lateral aspect of the face, the maxilla and maxillary teeth, and the region of the TMJ.
- triggered by turning the head or flexing the neck.
- The most commonly accepted method for diagnosis of referred pain from the cervical region is to palpate the muscles of the neck and upper shoulder region.

HYPERDENSE CT BRAIN LESIONS

- *A.* **Vessel**
  - **1. aneurysm**
  - **2. AVM**
  - **3. hematoma**
- *B.* **Tumor**
  - **1. lymphoma**
  - **2. medulloblastoma**
  - **3. meningioma**
  - **4. metastasis**
- **a. mucin-producing adenocarcinoma**
- **b. hemorrhagic metastasis**

BACK TO OUR CASE

- 57 y/o male, no underlying. Smoking(+)drinking(+)Headache history(+)
- Right facial pain for 1 day
- 牙科處置及止痛, still VAS 7-8
- 先排除最危急的D/D!=> cardiogenic source
  - EKG, lab data all negative
- 常見且重要的D/D: sinus infection, deep neck infection…
  - Plain film all negative

REFERENCE

- **Essentials of Oral Medicine · 2002**
- **Uptodate**
- **E-medicine**
- http://www.radiologyinfo.org/en/info.cfm?pg=headct

Thank you for your attentions!