

Case presentation- Skull base osteomyelitis with facial palsy

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Patient's history

- Age: 66 years old
- Gender: male
- Chief complaint: right auricular temporal area tenderness and otalgia for 3 weeks with sudden onset of right facial palsy.

Present illness-1

- Ootalgia and right auriculotemporal tenderness.
- The pain was sharp and throbbing with radiation to right cheek, right auriculotemporal, postauricular area and occipital area.
- Ear lobe tenderness when compression.

Present illness-2

- One week before admission, right facial palsy suddenly commenced.
- He went to 北港 hospital. Neurologist was consulted. Brain CT, MRI showed no ischemic or infarction change but loss of pneumatization of right mastoid.
- Herpes zoster infection was impressed.

Present illness-3

- On 4/7, pain persisted. He went to our ER for help. Grade II facial palsy was noted. Neurologist and otolaryngologist were consulted.
- On 4/10, pain got exacerbated and facial palsy worsened (grade III).
- He was admitted for further treatment.

Present illness-4

- right auriculotemporal area tenderness without vesicles or shingles formation.
- Pain on right mastoid area. There was no lymph enlargement on posterior auricular area .
- Ear drum intact.

Neurology exam

- 視力正常、光反射正常 (ocular nerve)
- 眼球活動正常 (oculomotor nerve, trochlear nerve, abducent nerve)
- 臉部感覺正常、嚼肌與顳肌力量正常 (trigeminal nerve)
- 右半邊臉部運動異常
 - 皺眉: 右半邊額頭無皺紋
 - 閉眼: 右邊無法完全閉上
 - 微笑: 右邊嘴唇無法上揚
- 聽力右耳骨傳導>氣傳導
- 說話發音正常 (glossopharyngeal nerve and vagus nerve)
- Sternocleidomastoid muscle & trapezius的肌力正常 (accessory n.)
- 舌頭伸出 & uvula上提並沒有明顯偏向 (hypoglossal nerve)

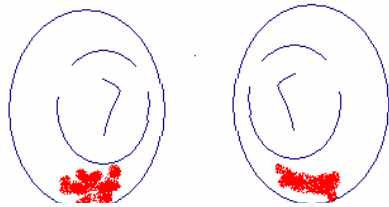
Past history

- DM for 10 years with medicaments control.
- Unknown medicaments for myofascial pain.

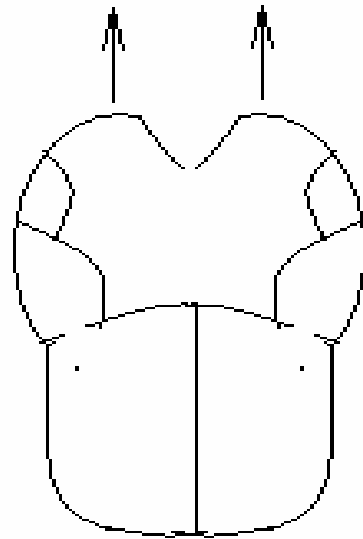
Physical examination

- General appearance: ill-looking, lying on bed. Moon face and central obesity, Cushingoid appearance
- Face: right facial palsy grade III
- Ear:right auriculotemporal tenderness without vesicles formation
- Oropharynx and oral cavity: no blisters on buccal mucosa, oral pharynx symmetric elevation
- Hypopharynx and larynx: no hoarseness or vocal cord palsy
- Neck: tenderness on right mastoid area.

Local findings



Tenderness over
auriculotemporal area



Local findings



Lab study

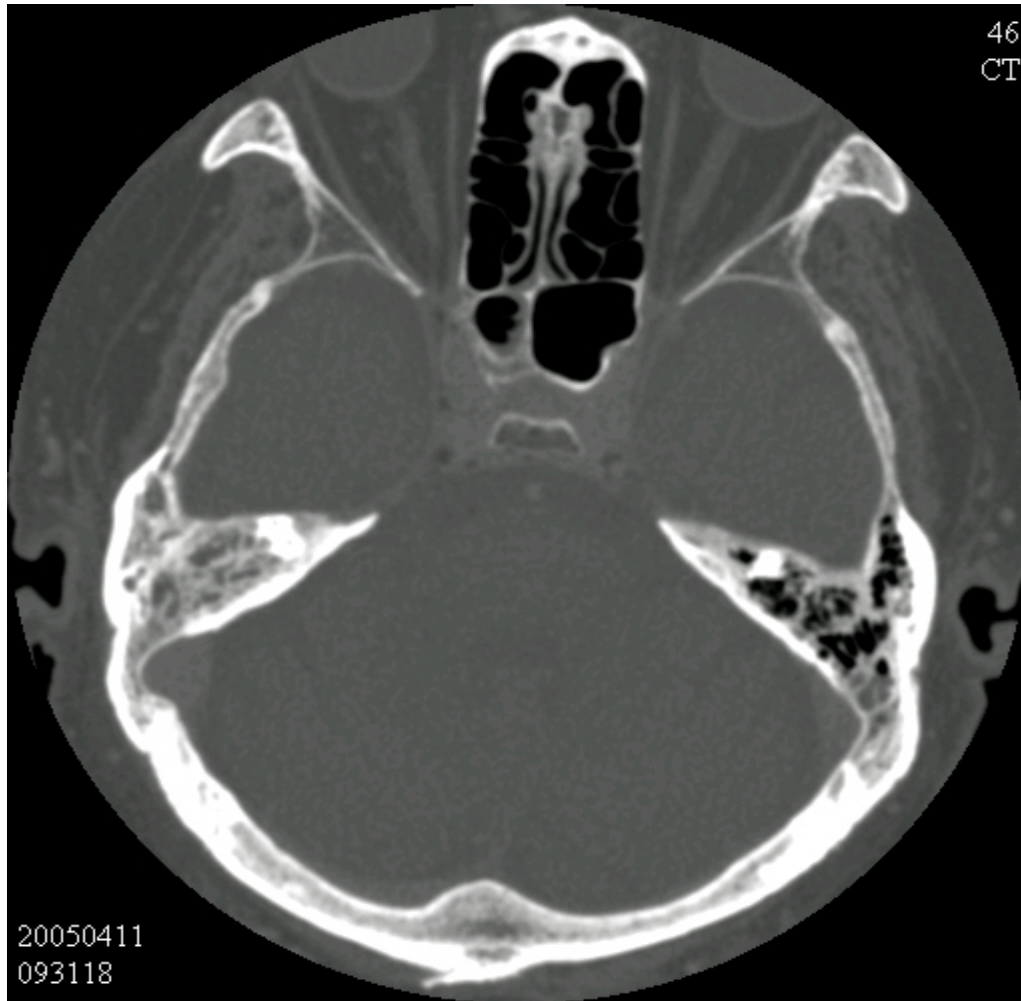
報告日期	檢驗項目	檢驗報告	單位
0940408	WBC	6.39	*10 ³ /u
	RBC	4.63	*10 ⁶ /u
	Hb	14.5	g/dl
	Ht	43.7	%
	MCV	94.4	fl
	MCH	31.3	pg
	MCHC	33.2	%
	PL	160	*10 ³ /u
	RDW-CV	14.4	%
	PDW		fl
	MPV	10.8	fl
	P-LCR		%

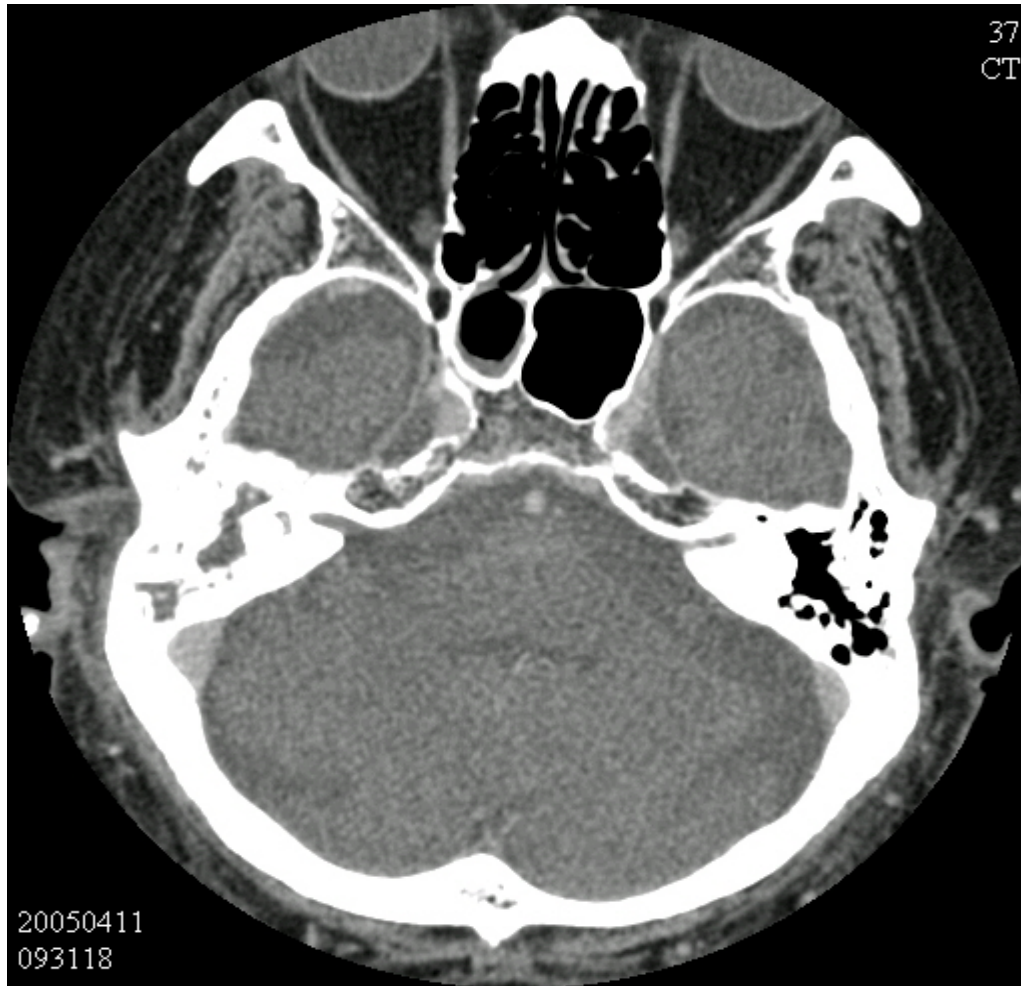
Lab study

0940408	Na	138.2	mmol/L
	K	3.53	mmol/L
	GLU	73	mg/dl
	BUN	23	mg/dl
	CRE	1.7	mg/dl
報告查詢(一)	GOT/AST	36	IU/L
	C K	59	IU/L
	CK-MB	6	IU/L
	TnT	Negative.	ng/ml

Clinical impression

- Right facial palsy
- No sparing of forehead furrows.
Peripheral type.
- No shingles noticed
- Tenderness over right mastoid area.
- **Suppurative otitis media, Mastoiditis,
temporal bone abscess**





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CT

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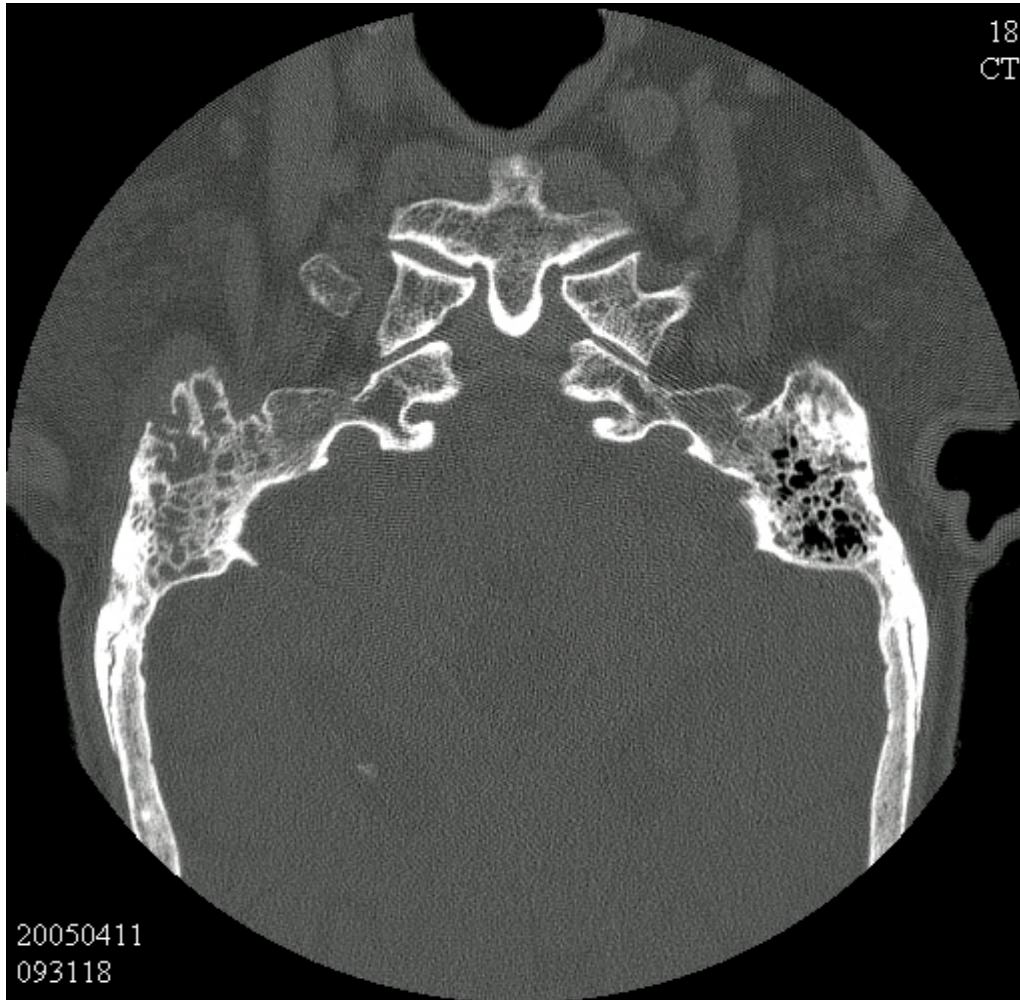


Image report

- Fluid collections are seen in bilateral mastoid air cells.
- Bony destruction and perimastoid soft tissue enhancement is seen in right mastoid. Fluid collection in the right middle ear is also noted.
- R/O osteomyelitis of mastoid.

Clinical course

- 4/7 first came to ER
- 4/10 admission
- 4/11 Arrange HRCT. Augmentin IV , prednisolone PO.
- 4/12 Fortum + gentamycin
- 4/14 Myringotomy with Grommet insetion. Tissue culture was no growth.
- 4/18 dischraged due to much improvement with ciprofloxacin PO.

Discussion

Skull base osteomyelitis (Malignant Otitis media)

The presentation of MOE

- Severe, unremitting, throbbing otalgia exacerbated at night.
- No previous history of otitis externa or media.
- Conductive hearing loss
- Facial palsy in $\frac{1}{4}$ of patients.
- Usually associated with DM.
- DEEP

Diagnosis

- Cultures and tissue biopsy.
- Elevated ESR(and is response to good treatment)
- Leukocytosis is uncommon and non-contributory
- CT scan: bony destruction and soft tissue inflammation.

Treatment

- Chandler, 1968: radical surgical debridement offers only chance of cure.
- Since 1970s, antipseudomonas agent + aminoglycoside has been the standard.
- 3rd generation of cephalosporin(Ceftazidime)
Ciprofloxacin.
- Amikacin and tobramycin are better choices among aminoglycoside than gentamycin.

Reference

- **Bell's palsy.** Donald H. Gilden, MD, N ENGL J MED 351;13 September 23, 2004
- **Skull base osteomyelitis secondary to malignant otitis externa.** Gangadhar S. Sreepada, Curr Opin Oto;aryngol Head and Neck Surg 11: 316-323, 2003.