LEE KONG CHIAN SCHOOL OF MEDICINE

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Nasopharyngeal carcinoma

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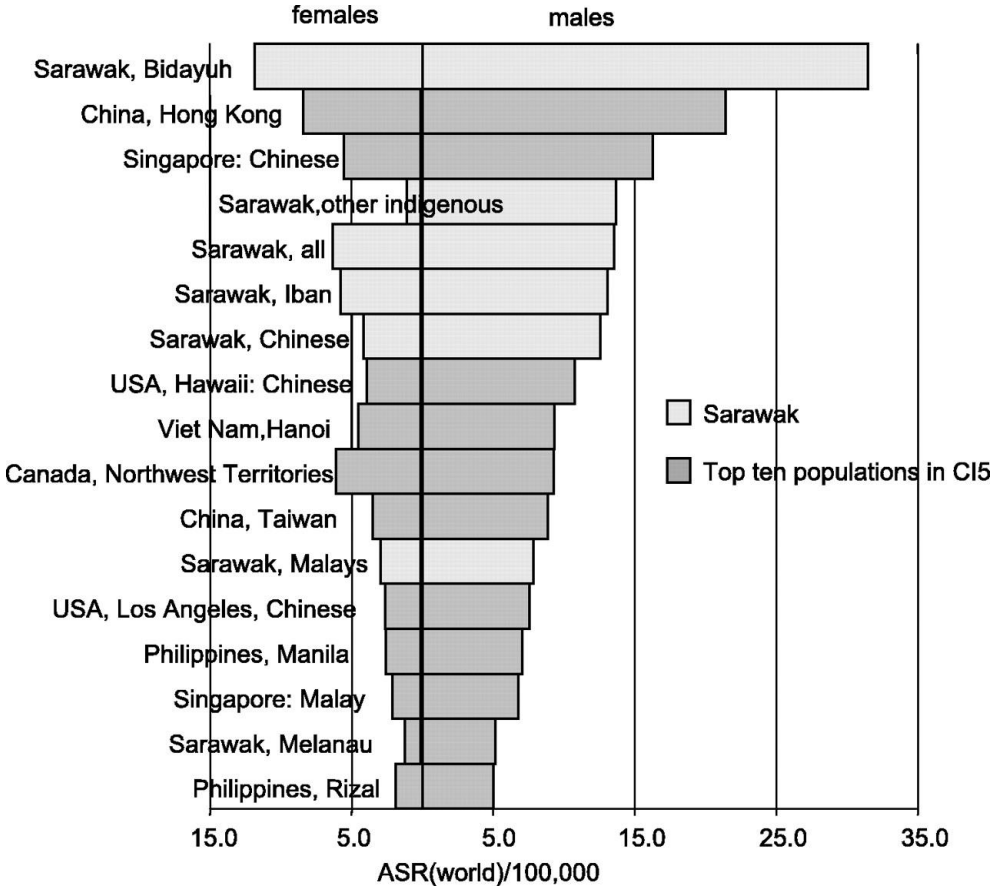
REDEFINING MEDICINE, TRANSFORMING HEALTHCARE

What is the epidemiology and aetiology of NPC?

- ASR in Malaysian males is 8.6 per 100,000 rising to 15.9 in Chinese males
- Male to Female ratio is 2.8:1
- Malays have half the risk and Indians a tenth the risk of Chinese
- Bimodal age distribution – 40s and 60s

- Genetic
  - Family history
  - Southern Chinese
- EBV
- Diet
  - Nitrosamines in preserved fish, vegetables

Age-standardized rates (100,000) of NPC in Sarawak and in the 10 populations in Cancer Incidence in Five Continents, vol. 8 (1) with the highest rates.



Devi B C R et al. Cancer Epidemiol Biomarkers Prev 2004;13:482-486

What are the common presenting symptoms?

Retrospective analysis of 4768 patients

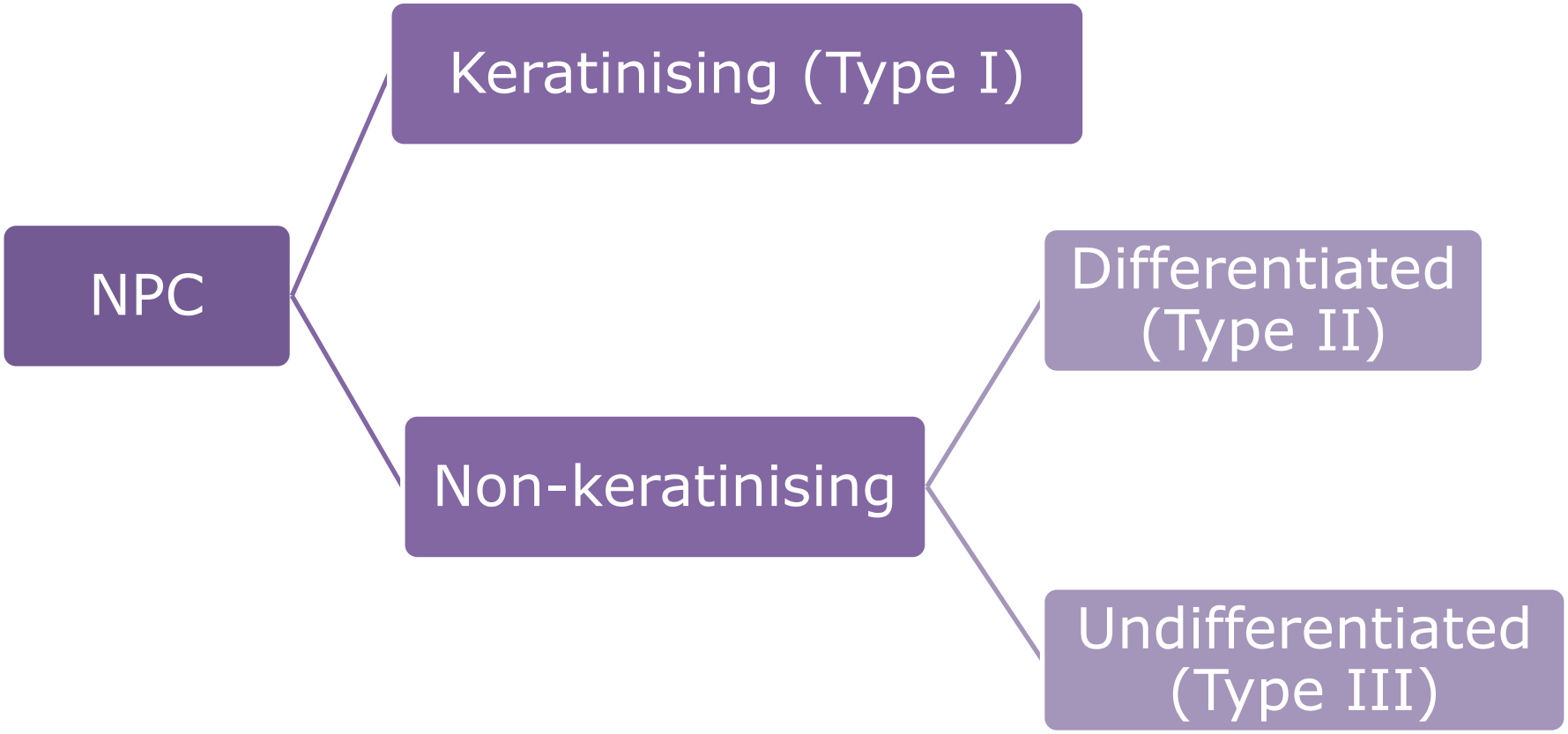
- Neck mass 76%
- Nasal symptoms 73%
- Aural symptoms 62%
- CN palsy 20%

AW lee, W Foo, SC Law, et al. Nasopharyngeal carcinoma: presenting symptoms and duration before diagnosis. Hong Kong Med J 1997; 3: 355-361

- Neck mass 56%
- Blood stained saliva, sputum 35.6%
- Deafness 26.3%
- Epistaxis 22 %
- CN palsy 8%

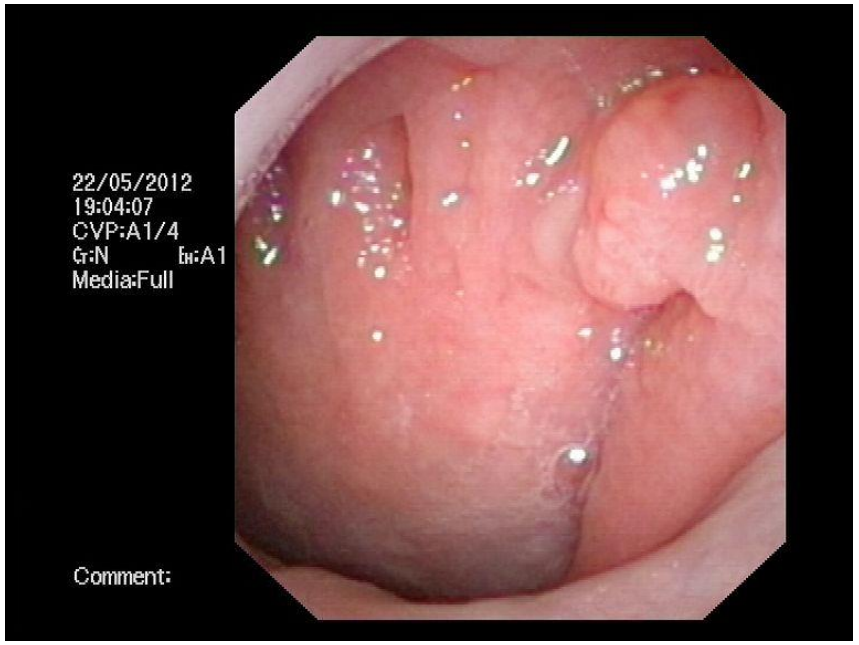
K S Loh, Luke Tan Nasopharyngeal carcinoma instruction course to medical student

Histological classification of NPC



Management

- How do you make the diagnosis?
- How do you manage a middle ear effusion?
- What staging imaging would you request?
  - MRI and PET-CT
  - CT Neck, Thorax, Liver and Bone Scan
  - CT Neck and Thorax, US Liver and Bone Scan

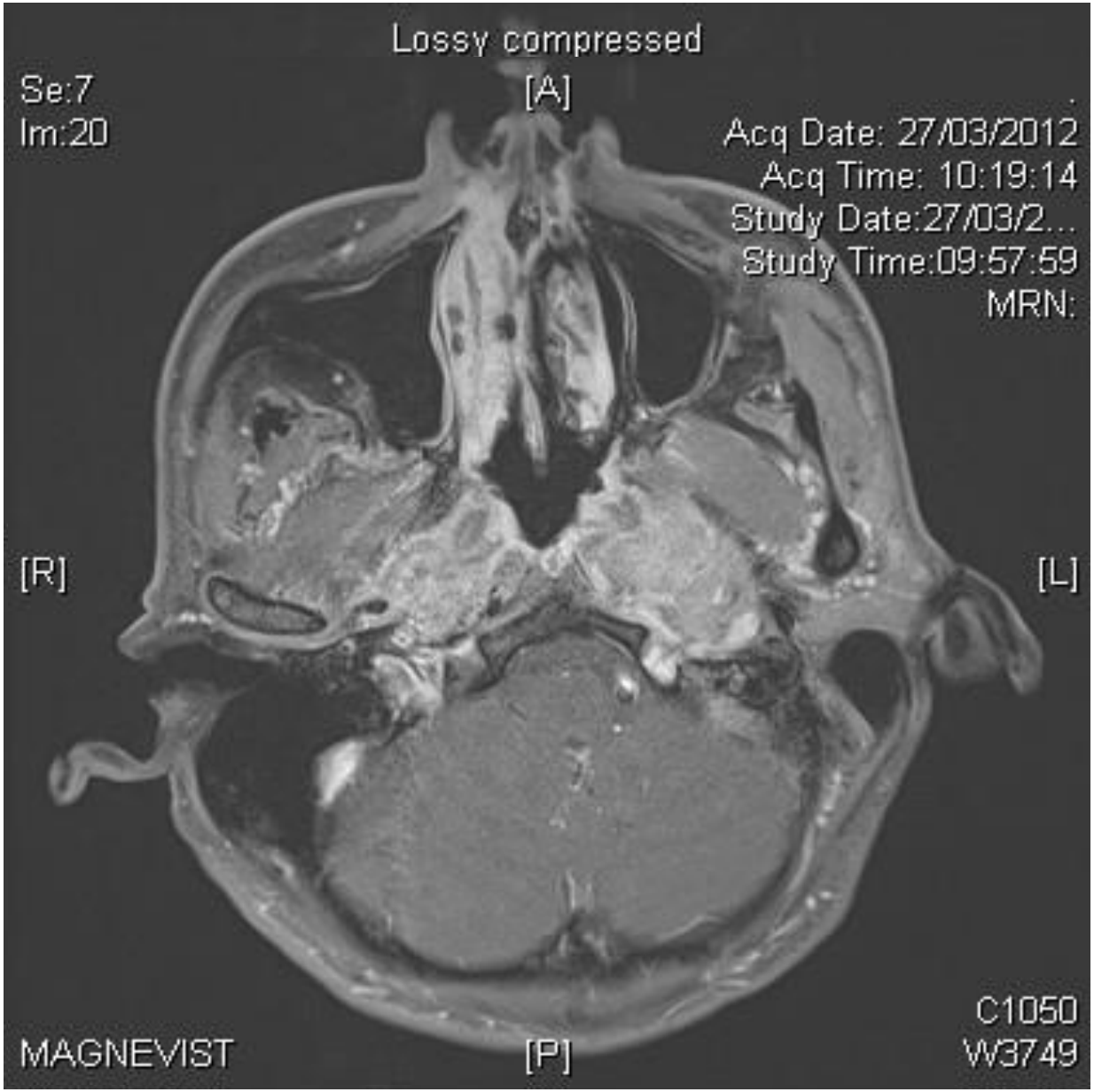


NPC AJCC staging

T1	Nasopharynx, oropharynx or nasal cavity
T2	Parapharyngeal extension
T3	Bone structures of skullbase or paranasal sinuses
T4	Intracranial / cranial nerves, hypopharynx, orbit, IFT, masticator space
N1	Unilateral cervical, uni- or bilateral retropharyngeal nodes above the SCF
N2	Bilateral cervical nodes above the SCF, < 6 cm
N3a	> 6 cm
N3b	SCF

NPC stage grouping

Stage Grouping			
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
	T1	N1	M0
	T2	N1	M0
Stage III	T1	N2	M0
	T2	N2	M0
	T3	N0	M0
	T3	N1	M0
	T3	N2	M0
Stage IVa	T4	N0	M0
	T4	N1	M0
	T4	N2	M0
Stage IVb	Any T	N3	M0
Stage IVc	Any T	Any N	M1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How do you treat NPC?

Early stage disease
(stage I)

- RT alone
- IMRT spares critical structures
- 70 Gy to primary, 66-70 Gy to gross nodal disease, 50 Gy to uninvolved neck

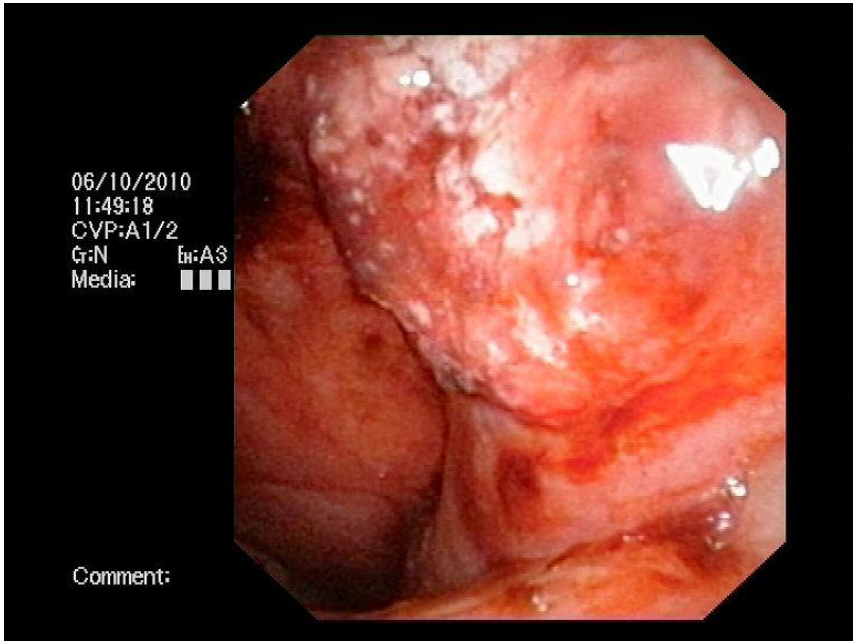
Locally advanced disease
(stage II +)

- Concurrent chemoRT
- Cisplatin –days 1, 22, 43 100 mg/m^2 (Intergroup 0099 study / Al-Sarraf), followed by 3# of adjuvant Cisplatin/5FU
- Chemo increases control rate by 25% (from 54% to 78%)
- Weekly concurrent Cisplatin 40 mg / m^2 is better tolerated
- Carboplatin is an alternative to Cisplatin

- For N2+ disease, consider induction chemo with TPF is an option

How do you follow up NPC following treatment?

- 8 weeks following treatment, nasal endoscopy shows the following, what do you do?
- 12 weeks after completion of RT, nasal endoscopy still shows the same – what do you do?
- What modality of imaging would you choose?
- MRI 12 weeks following completion of treatment shows possible residual disease, nasal endoscopy is normal, what do you do?

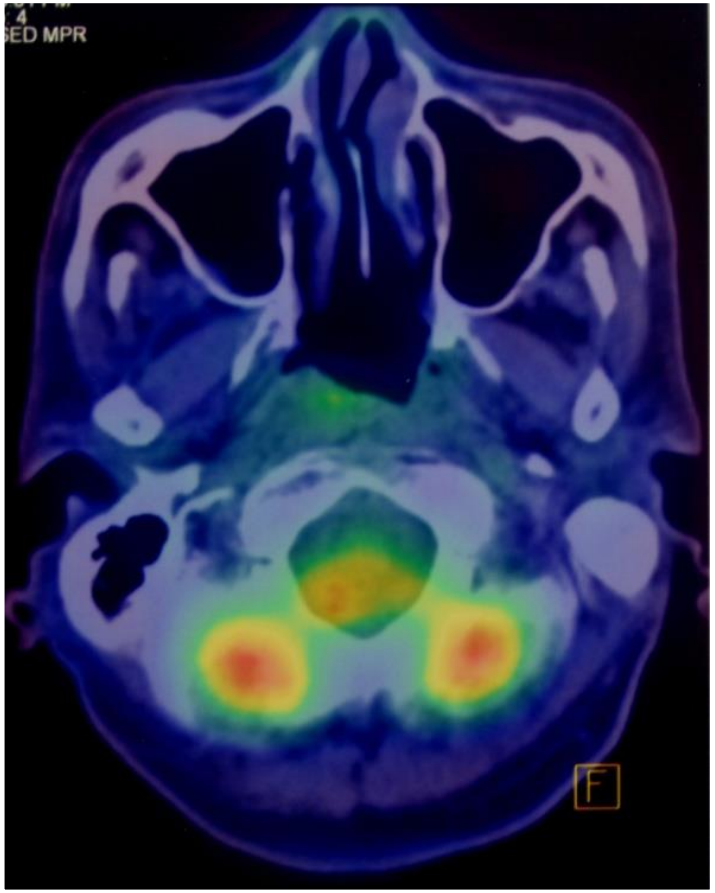


FDG-PET/CT offers early detection of recurrence

In a systematic review of 21 studies, PET more sensitive than MR or CT

	CT	MR	PET
Sensitivity	76%	78%	95%

SUV > 4, 3 months post-RT



Source: FDG-PET, CT, MRI for diagnosis of local residual or recurrent nasopharyngeal carcinoma, which one is the best? A systematic review. Liu T et. al. Radiother Oncol 2007

Disease recurrence in NPC

- 5 year overall survival rates are approximately:
  - Stage I 70-72%
  - Stage II 64-65%
  - Stage III 60-62%
  - Stage IV 38-40%

Managing locoregional NPC recurrence

Regional recurrence

- Only proven treatment is a radical neck dissection
- Take skin if involved and use pedicled flap if need be
- Brachytherapy wires if carotid involved
- 5 year local control rate following neck dissection is 66%

Local recurrence

- If resectable, options are surgery or re-RT
- If < 1 year disease-free interval, surgery is preferable
- If unresectable, re-RT is only option
- If small volume consider stereotactic RT
- If large volume, re-IMRT
- Local control rate for re-RT is 60%, for salvage nasopharyngectomy via max swing is 73%

THANK YOU!