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Patterns of Regional Lymph Node Metastasis of Nasopharyngeal Carcinoma in West Sumatra Indonesia

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Background

- Nasopharyngeal Carcinoma (NPC) is the most common head and neck cancer in West Sumatra.
- Majority of patients with Nasopharyngeal carcinoma in our institution have advanced stage at presentation
- Lymph node metastasis as the most common symptom.
- Lymphatic drainage of the nasopharynx is predominantly to the cervical lymph nodes.
- Irradiation of the entire neck regardless of the stage → standard treatment of NPC
- Irradiation of a large field to the neck is associated with morbidities.

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Objectives

- Uderstanding of the pattern of nodal spread is important for future radiation therapy portals.
- Selective neck irradiation can be savely implemented in patients with limited nodal metastasis → decrease side effect
- The objective of this study is to describe pattern of regional lymph node metastasis of NPC in West Sumatra Indonesia.

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Methods

- We retrospectively reviewed the medical records of previously untreated NPC patients presented to the Department of Otorhinolaryngology Head and Neck Surgery Dr. M. Djamil General Hospital from October 2011 to September 2016 to ensure the prevalence of lymph node metastasis by neck level.
- Information based on combination of palpation and CT scan.

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Results

- A total number of 76 patients with nasopharyngeal carcinoma include in this study.
- There were 48 males and 28 female with a median age of 47 years at presentation (average 45.29±13.35 years).
- A total of 59 (77.63%) cases had involved neck lymph node.

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Frequency of involvement of different nodal level

Level of LN	Frequency	%
Level I (submental submandibular)	2*	3.39
Level II (Upper jugular)	51	86.44
Level III (Middle jugular)	35	59.32
Level IV (Lower jugular)	21	35.59
Level V (Posterior triangle)	24	40.67
Level VI (Anterior Compartment)	0	0

*level I involvement was associated with nodal metastasis at levels II

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- Level II was the most common involved (86.44%), followed by level III (59.32), level V (40.67) and level IV (35.59).
- The lower the position in the neck the less frequently the nodal group was involved.
- Level I was rarely involved (3.39%), level I involvement was associated with nodal metastasis at levels II.

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Results

- Twenty of 59 (33.9%) are single node, all of these occurred in level II only, some with extension to level III.
- A high frequency of involvement of level II compared with other cervical nodal regions strongly suggests that it is the first order nodes draining of the npc.

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Size and Laterality of nodal metastasis

		Frequency	%
Laterality	Unilateral	20	33.9
	Bilateral	39	66.1
Size	≤6 cm	38	64.4
	>6cm	21	35.6
Total		59	100

Nodal disease was bilateral in more than half of patients

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Discussion

- These findings agrees with the study of Ho (1) and Wang (2), majority of NPC presented with lymph node metastasis.
- Level II is also the most often region involved in several other studies (1,2,3) in addition to retropharyngeal nodes.
- Evalaution of retropharyngeal node →MRI

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Conclusions

- Level II was the most commonly involved node in nasopharyngeal carcinoma in west sumatra, followed by level III, level V and level IV.
- Level I was rarely involved, level I involvement was associated with nodal metastasis at levels II.

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