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Nasopharyngeal Carcinoma Profile in dr. Cipto Mangunkusumo Hospital Year 2013

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Abstract

Background: Nasopharyngeal carcinoma (NPC) remains as a health burden in Indonesia. It is one of most common cancers in Indonesia, with an overall incidence estimated at 6.2/100,000 or 12,000 new cases per year. Unfortunately, many of these cases are unregistered due to several factors, such as lack of national cancer registry. In most developing countries, cancer registration often begins in hospitals. Hospital-Based Cancer Registry (HBCR) provides the initial and major source of information on patients that leads to the set-up of a population-based registry.

Materials and Methods: This was a descriptive retrospective study of all registered NPC patient in HBCR, from January-December 2013. All registered NPC patients in HBCR in the year 2013 is included.

Results: There were 299 NPC patients, with a male-to-female ratio of 2.4:1. Median age was 47 years old, with majority of age between 40-49 years old (27.4%). Most common type of histology was undifferentiated NPC (85%). Most patients presented with locally advanced disease, with majority of stage IVA (33.9%). Chemoradiation remained as standard treatment for locally advanced NPC (84.1%).

Conclusion: Demographic data of patients, such as age and sex, are consistent with previous studies. Whereas racial distribution was not parallel with previous studies, maybe due to its lack of available data. Moreover, most common histopathology type and presentation was undifferentiated NPC and patients with Stage III to IV cancer.

Keywords: Nasopharyngeal Carcinoma, NPC, Profile, Hospital-Based Cancer Registry, HBCR

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INTRODUCTION

Cancer is one of the leading causes of death worldwide, both in developed and developing countries. There were more than fourteen millions new cases of cancer and more than eight millions deaths from cancer worldwide in 2012 alone. Developing countries account for 57% of new cancer cases and 65% of cancer deaths.¹

Based on Globocan 2012, estimated cancer incidence in Indonesia is 134 per 100000 residents.¹ In the 2013 Basic Health Research (Risikesdas), the prevalence of cancer patients in all ages in Indonesia was 1.4 per 1000 inhabitants.² In January to June 2014, cancer treatments ranked second and fifth in regard of treat-

ments compared to other hospitalization disease.³

NPC, as the most common neck and head malignancy, is the fourth most common cancer in Indonesia. Estimated regional NPC incidence from 11 centers in Indonesia is 5.66 per 100000, or about 1000 new cases every month. It is estimated that there are still many cases that are not recorded due to various factors, such as limited resources and facilities of the hospital, and the absence of a national cancer registration system.⁴

To date, population-based cancer registry (PBCR) system is not yet available in Indonesia. In many developing countries, cancer registration system begins with

the formation of a hospital-based cancer registry (HBCR) in several hospitals.⁵ Data from the Cipto Mangunkusumo National Hospital (CMNH) HBCR as a national referral center hospital will be very beneficial for the development of PBCR in Indonesia.

METHODS

This study was a descriptive and retrospective comparative analysis of NPC patients, based on CMNH HBCR year 2013. This study used total sampling method. We collected and analyzed patients' data regarding demographic, basis of diagnosis, staging, histopathological type and treatments. Missing or incomplete data were then being complemented from medical record. Gathered data then would be put together and presented in percentage.

RESULTS

A total of 299 NPC patients' data were collected from CMNH HBCR year 2013. Demographic characteristics of age and sex can be traced in all patients. Of the 299 patients, 124 patients had ethnic / racial data, and 264 patients had domicile data. Tumor characteristics collected were histopathology and staging groups. 280 patients had histopathology data, and 233 patients had stage data.

Based on the CMNH HBCR year 2013, 299 patients were diagnosed as nasopharyngeal cancer. As many as 212 patients (70.9%) were male and 87 (29.1%) were female. Age peaks at 51-55 (figure 1), with a median age of 47 years, the youngest was 10 years and the oldest was 77 years. Most patients came from outside Jakarta. Most patients identify as non-chinese (38.8%), with 58.5% data regarding ethnicities is not available. More complete demographic characteristics data can be seen in table 1.

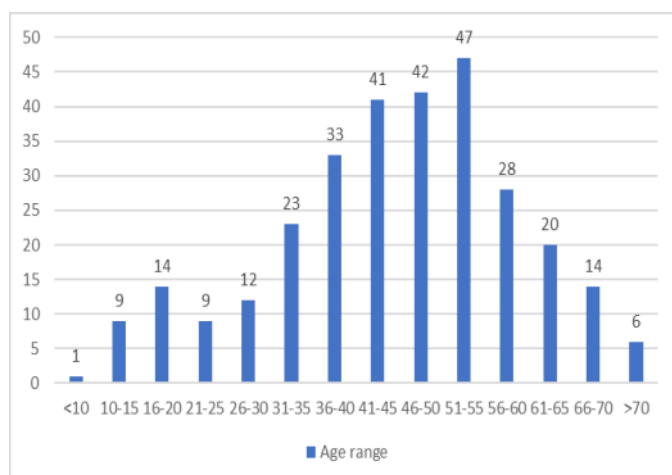


Figure 1. Age distribution of NPC Patients

Table 1. Sociodemographic Characteristics of NPC patients in CMNH

	n	%
Characteristics		
Sex		
Male	212	70.9
Female	87	29.1
Age (Mean ± SD = 43.53 ± 13.796)		
6-10	1	0.3
10-15	9	3
16-20	14	4.7
21-25	9	3
26-30	12	4
31-35	23	7.7
36-40	33	11
41-45	41	13.7
46-50	42	14
51-55	47	15.7
56-60	28	9.4
61-65	20	6.7
66-70	14	4.7
>70	6	2
Ethnicity		
Non-chinese	116	38.8
Chinese	8	2.7
Not Listed	175	58.5
Domicile		
Jakarta	102	34.1
Other than Jakarta	162	54.2
Not Listed	35	11.7

The most common basis for diagnosis is through histopathological examination of the primary tumor (91%, n = 272), clinical examination (3%, n = 10), followed by the diagnosis of histopathology based on metastasis lesion (2.7%, n = 8) and radiology (2.7%, n = 8). Basis of diagnosis data is shown in table 2.

Table 2. Common Basis for NPC Diagnosis in CMNH

Common Basis for Diagnosis	n	%
Histopathology of Primary Tumor	272	91
Clinical Examination	10	3
Histopathology of Metastasis Lesion	8	2.8
Radiology	8	2.8
Death Certificate	1	0.3

Histopathological examination of both primary and tumor metastasis was performed in 280 patients. Undifferentiated squamous cell carcinoma (WHO type III) is the most common histopathological type (85%, n = 238). WHO type II and type I histopathological types

ranked third and fourth, as many as 6.1% (n = 17) and 2.1% (n = 6). As many as 19 (6.8%) patients did not have any histopathological data due to inavailability primary tumor histopathological examination or due to incomplete medical record. NPC histopathological distribution can be seen in table 3.

Table 3. Histopathological type of NPC in CMNH

Histopathological Type	n	%
WHO type III	238	85
WHO type II	17	6.1
WHO type I	6	2.1
Data not complete	19	6.8

Sixty-six of the 299 patients did not have stage data or had not completed the stadium work-up. Based on the existing data (n = 233), the majority of patients were in stage III-IVB, the most were stage IVA (26.42%, n = 79). Only fourteen patients were diagnosed as stage II (4.68%) and there weren't any patients with stage I. Data regarding NPC stadium distribution is shown in table 4.

Table 4. Staging Distribution of NPC in CMNH

Staging	n	%
II	14	4.68
III	49	16.39
IVA	79	26.42
IVB	45	15.05
IVC	46	15.38
Data not complete	66	22.07

In this study, 194 of 299 patients received radiotherapy, chemotherapy, surgery or combination. Patients who received other treatments (35.1%, n = 105) included: patients who were only sent for histopathological examination but received treatment elsewhere; patients receiving treatment other than radiation, chemotherapy, and surgery (nasopharyngectomy or lymphadectomy); and patients who passed away or didn't return (loss to follow up) before getting definitive therapy.

One-hundred seventy of the 194 (87.6%) patients received radiotherapy, either in curative or palliative settings. Out of 170 patients who received radiotherapy, 134 of them received chemoradiation, 19 patients did not get chemoradiation or unknown chemoradiation status, and the remaining 17 were given chemotherapy in cases of metastasis. 26 patients received neoadjuvant chemotherapy (NAC), and seven patients received post-radiation adjuvant chemotherapy / post chemoradiation. Palliative chemotherapy was given to 30 patients.

Of the 194 patients who received treatment at RSCM, 151 were in the stage II-IVB group. 127 (84.1%) of them received chemoradiation, 18 (11.9%) patients received radiation only, and 26 (17.2%) patients received NAC, most common at stage IVB. Of the 26 patients who received NAC, 20 patients received definitive radiation or chemoradiation therapy (NAC + RT / CRT), and the remaining six lost to follow up so that they had not had time to get definitive therapy. Seven (4.6%) patients with stage IVA-IVB received adjuvant chemotherapy. While in stage IVC patients (n = 31), 26 (83.9%) patients received chemotherapy and 17 (54.8%) patients received radiation. Complete data and distribution regarding NPC treatment can be seen in table 5, 6 and 7.

Table 5. Treatment Distribution of NPC based on Staging in CMNH

Staging	Radiotherapy/Chemotherapy/ Operation/Combination	Others	Total
II	12	2	14
III	41	8	49
IVA	63	16	79
IVB	35	10	45
IVC	31	15	46
Data Not Complete	12	54	66
Total	194 (64,9%)	105 (35,1%)	299 (100%)

Table 6. Treatment Distribution of NPC in CMNH

Variable	n
Treatment	
Radiotherapy	170
Chemotherapy	63
Operation	0
Radiotherapy	
Chemoradiation	134
Radiation only	19
Palliative	17
Chemotherapy	
Neoadjuvant	26
Palliative	30
Post radiotherapy adjuvant	7

Table 7. Treatment Distribution of NPC for each Staging in CMNH

Treatment	Staging				
	II (n=12)	III (n=41)	IVA (n=63)	IVB (n=35)	IVC (n=31)
Chemoradiation	9	35	53	30	0
Radiation Only	3	5	8	2	0
Palliative Radiotherapy	0	0	0	0	17
Neoadjuvant Chemotherapy	0	1	7	18	0
Palliative Chemotherapy	0	0	0	0	26
Adjuvant Chemotherapy	0	0	4	3	0

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