

DESCRIPTIVE STUDY OF HEAD AND NECK TUMOUR VARIATION CASES IN RSUD UNDATA PALU FROM 2014 – 2017

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ABSTRACT

Background : Malignant tumour in the head and neck region are among the top five of all malignancies in the world. The location of many malignant tumour is nasopharynx but with varying numbers.

Objective: to know the description of head and neck tumour case variation at Undata Palu Hospital 2014-2017 period.

Method: Descriptive – Retrospective study using secondary data from patient's medical record at SMF THT-KL at Undata Palu Hospital 2014-2017 period. Descriptive analysis was performed for the location of the tumour; age and gender.

Results: Head and neck tumour are common in the 41-65 age group (66%), more in the male sex and most are nasopharyngeal tumour (32%).

Conclusion: Case variation of head and neck tumour at RSUD Undata Palu is not different than some regions in Indonesia and other countries.

Keywords: *Head and neck tumour, nasopharyngeal, Undata*

BACKGROUND

Head and neck malignant tumour are among the top five of all malignancies in the world, where more than 600,000 new cases are found each year. (Parkin et al. 2005). In the United States , 2001, out of 75,000 cases of malignancy in the head of the neck, the highest location was found in thyroid 29%, larynx 15%, oropharyngeal mucosa 12%, tongue 10% and soft tissue 9%. (Davis & Welch, 2006). Siahaan, out

of 569,948 new patients who went to the ENT clinic of RSUP Dr. Kariadi Semarang in the period year 1991-1995, 576 or 0.1% suffered malignant head and neck tumour and the most common was nasopharynx malignancies (56.25%). (Siahaan, 1996).

Hutagalung in his research found that out of 31,875 new patients treated at the ENT clinic of RSUP DR. Sardjito from 1991-1995, 1084 or 3.40% suffered malignant tumour in the head and neck. The most common was nasopharyngeal malignant tumour (45.35%). (Hutagalung, 1996). Research conducted by Sihotang in 2007 at RSUP Haji Adam Malik, found that the highest location of head and neck malignant tumour was in the nasopharynx, that was 13 patients from 22 samples (59.10%), followed by nasal and paranasal sinus tumour 13.6 %, ear tumour 9.1 %, tongue tumour 9.1 %, laryngeal tumour 4.5% and palate tumour 4.5%. (Sihotang, 2007).

According data that have been show above, we can conclude that head and neck tumour are often found in several health centers and variated, whereas in RSUD Undata Palu the baseline data of characteristics head and neck tumour does not yet exist, therefore researchers want to know the variations in head and neck tumour at department ORL -HNS Undata Palu Hospital from 2014-2017.

METHOD

This is a descriptive-retrospective study using patients medical records in ENT clinic on Undata Palu Hospital from year 2014-2017. Descriptive analysis was carried out for the location of the tumour; age and gender.

RESULTS AND DISCUSSION

Data from patients medical records in ENT clinic on Undata Palu Hospital from year 2014-2017. We found 56 people with demography as showed in table.1. The results of this study obtained the highest frequency in the age group 41-65 years as many as 37 patients (66%) with the youngest age was 12 years and the oldest was 76 years old with a mean age was 52 years.

Wei et al (2017) in his research entitled the incidence and mortality of nasopharyngeal carcinoma in China in 2013 found that the highest age group of nasopharyngeal carcinoma was age 25-29 years while the highest mortality of nasopharyngeal carcinoma was 35-39 years of age. Retrospective study in the anatomical pathology laboratory of Dr. Kariadi Hospital in Semarang from 2001-2005 found 448 cases of head and neck malignant tumour, with the distribution of the most common age group being <50 years, 235 patients (52.45%), followed by 50-59 years, 97 patients (21.65%) and the least found was > 70 years (8.93%) (Wiliyanto, 2006).

Hutagalung in his research found that out of 31,875 new patients treated at the ENT clinic of RSUP DR. Sardjito from 1991-1995, 1001 or 3.40% suffered malignant tumour in head and neck where the age group most frequently affected was <50 years (61.84%) (Hutagalung, 1996). The same research was conducted by Siahaan, from 569,948 new patients who were treated at RSUP Dr. Kariadi Semarang in the period 1991-1995, 576 or 0.1% suffered head and neck malignant tumour with the most common age group was <50 years of 50.86% (Siahaan, 1996). Piccirillo and Yung (2008) in their study found 183 cases of head and neck malignant tumour from period years 1997-1998, with the most cases found in the age group 51-60 years (30.1%), followed by 61-70 years age group (25.7%), and 71-80 years (25.1%). The national cancer data base in 1998 in the United States reported 295,022 cases of head and neck malignancies in the period years 1985-1994. The age group with the most malignancies was 60-69 years (27%) (Hoffman et al, 1998). Ronis et al (2008) found 316 patients with head and neck malignant tumour during the 2007, with an average age of $58.6 \pm 10, 2$, with a age range of 25-86 years.

Adeyemi et al (2008) who conducted a retrospective study in primary and secondary health facilities in Nigeria within 1991-2005 period years found 778 cases of head and neck malignant tumour with an average age of 43.8 ± 19.6 years. Epidemiological studies conducted by Bhurgri et al (2006) found the incidence of

head and neck malignant tumour was 53 ± 5 age group years. The cross-sectional study in various regions of Brazil found group age was 15–82 years and the average age was 58 years (Carvalho et al, 2002). Iro and Waldfahrer (1998) conducted a retrospective study in the division of head-neck surgery at the University of Nuremberg Germany in the period years 1970-1990 found 3247 cases of head and neck malignancies, with an average age of 58.2 ± 12 years.

Table.1. Frequency distribution of patients with neck head tumour according to age group, gender and tumour location

	Age (years)	Frequency	(%)
Age group	6-11	1	1,7857143
	12-17	2	3,5714286
	18-40	11	19,642857
	41-65	37	66,071429
	>65	5	8,9285714
Sex	Male	38	67,85714
	Female	18	32,14286
Tumour Location	ear	4	7,142857143
	Nose and paranasal sinus	13	23,21428571
	Mouth	15	26,78571429
	nasopharynx	18	32,14285714
	Oropharynx	2	3,571428571

Hipo pharynx	0	0
Larynx	4	7,142857143

The results of this study found that male is more common than women with a with a ratio of 2.1: 1. Similar things were also found in Wei et's study al (2017) in his research about the incidence and mortality of nasopharyngeal carcinoma in China in 2013 found that men had the highest incidence and mortality of nasopharyngeal carcinoma compared to women. Takiar et al (2010) in a study on predictions of cancer development in Bangalore, found cases of head-neck malignant tumour in 2010 amounting to 175,791 cases, and predicted that cases increased to 196,065 in 2015 and in 2020 cases of head-neck malignant tumour increased to 218,421 cases. The comparison of the incidence of head-neck malignant tumour between men and women is 2: 1 and between 2010, 2015 and 2020 there is no significant difference. The Hashibe et al (2009) study, with the number of cases 11,221, found that male was more frequently affected by head and neck cancer (79.9%) compared to women (20.1%), (Hashibe et al, 2009).

Ronis et al (2008) found 316 head and neck malignant tumour during the 2007 period, with the largest frequency found in men (79.4%) while women (20.6%). Adeyemi et al (2008) who conducted a retrospective study in primary and secondary health facilities in Nigeria in the period 1991-2005 found 778 cases of head and neck malignant tumour with a ratio between men and women was 1.8: 1. Adeyemi and colleagues did not find significant difference between the average age of men and women ($p = 0.198$). Piccirillo and Yung (2008) in their study found 183 cases of head and neck malignant tumour period 1997-1998, with the most cases found in men (71.6%) followed by women (28.4%). Hayat et al (2007) found the incidence of head neck cancer 3 times more common in men than women (Hayat et al, 2007). Retrospective study in the anatomical pathology laboratory of Dr. Kariadi Semarang in the period 2001-2005 found 448 cases of head and neck malignant tumour, with a ratio of men and women was 1.2: 1 (Wiliyanto, 2006). Epidemiological studies conducted by Bhurgri et al (2006) found the incidence of

malignant head neck tumour in men was 21% and in women 11% in two periods (1995-1997 and 1998-2002).

The cross-sectional study of head and neck malignant tumour patients in various regions of Brazil found 676 cases of malignant head neck tumour, 88% were men (Carvalho et al, 2002). The national cancer data base in 1998 in the United States reported 295,022 cases of head and neck malignancies in the period 1985-1994 with a ratio of men to women of 1.5: 1 (Hoffman et al, 1998). Iro and Waldfahrer (1998) conducted a retrospective study in the division of neck surgery at the University of Nuremberg Germany in the period 1970-1990 with the results of 3247 cases of head and neck malignancies, with 2883 male sufferers, 364 female sufferers.

A prospective study by the United States National Cancer Agency for the period of September 1, 1983 - February 28, 1987 in three states, found 649 patients diagnosed with head and neck malignant tumour. More men were found in this study (71.2%) while females were 28.8%. (Deleyianis et al, 1996). Hutagalung in his research found that out of 31,875 new patients treated at the ENT Clinic RSUP DR. Sardjito from 1991-1995, 1001 or 3.40% suffered malignant tumour in head and neck, 69.50% are men (Hutagalung, 1996). The same research was conducted by Siahaan, from 569,948 new patients who were treated at RSUP Dr. Kariadi Semarang in the period 1991-1995, 576 or 0.1% suffered head and neck malignant tumour. Most sufferers are men (65.27%) (Siahaan, 1996).

Men more suffering head neck tumour than women reported in almost all studies, it is correlated with alcohol as an etiological factor that is often found in head neck tumour. Smokers are 5 to 25 risk times higher to get head neck tumour than non-smokers. Alcohol can be related to life habits and work that causes men to come into contact with carcinogens that cause head neck tumour. The risk also increases in alcohol drinkers and smoking. The direct effects of nicotine and polycyclic aromatic hydrocarbons are considered carcinogenic. Smoking and drinking alcohol also cause mutations from p53 tumour suppressor genes (Goldenberg, et al. 2004).

Researched by Sihotang (2007) in RSUP HAM, where the highest number of head neck malignant tumour was found in the nasopharynx, 13 patients from 22 samples (59.10%), followed by nasal and paranasal sinus tumour 13.60%, ear tumour 9.10%, 9.10% tongue tumour, 4.50% laryngeal tumour, 4.50% palate tumour (Sihotang, 2007). The study by Wei et al (2017) about incidence and mortality of nasopharyngeal carcinoma in China in 2013 found that there were 42,100 new cases and 21,320 deaths from nasopharyngeal carcinoma in 2013. Research by Wiliyanto (2006) period 1 January 2001– December 31, 2005 in dr. Kariadi, found the most common type of head and neck malignant tumour are nasopharyngeal malignant tumour (25%) and lymph node malignant tumour (25%) (Wiliyanto, 2006).

Research by Kuhuwael (2001) at Dadi and RSU General Hospital Dr. Wahidin over a period of 10 years (1990-1999) found 570 head and neck malignancies consisting of nasopharyngeal carcinoma (47.98%), nose and paranasal sinuses (19.96%), tonsils (10.33%), larynx (7 , 72%) and oral cavity (7%) (Kuhuwael, 2001). The results of Soekamto's (2000) study of the incidence of head and neck malignant tumour in Dr. Soetomo hospital Surabaya between 1996-2000, getting the most common malignant tumour was a nasopharyngeal malignant tumour (478 cases or 28%) and a malignant laryngeal tumour (257 or 16%). Hutagalung in his research found out of 1084 cases of head and neck malignancies in the ENT Clinic of RSUP DR. Sardjito from 1991-1995, the most locations were nasopharynx (45.35%), oral cavity (22.67%), larynx (14.88%), rice cavity (9.09%), paranasal sinuses (7, 99%) (Hutagalung, 1996).

One most important risk factors is ethnic groups, where the Indonesian is included in the Mongoloid race which is genetically at risk of getting a nasopharyngeal tumour, besides that life habits factors that like to eat preserved foods can also cause high incidence of nasopharyngeal tumour in several centers in Indonesia. Different studies were found in international studies, such as the study by Hashibe et al (2009), with the number of cases 11,221, finding the most common head neck malignancy was oropharyngeal cancer (36%), followed by oral cavity cancer (26.7%) and the last is laryngeal cancer (26.4%). Research by Ronis et al

(2008) found 316 patients with head and neck malignant tumour, with the most locations being the Oral Cavity (21.5%), pharynx-oropharynx-hypopharynx-nasopharynx (53.5%) and larynx (25%) . A retrospective study in primary and secondary health facilities in Nigeria from 1991 to 2005 by Adeyemi et al (2008), found 778 cases of head and neck malignant tumour with the most frequently involved sites were the oral cavity and oropharynx (31.1%), followed by nasopharynx (16.4%) and nasal paranasal sinuses (15%). The average age of nasopharyngeal and oral cavity tumour patients is significantly lower, while the average age of hypopharyngeal and laryngeal malignant patients is higher, compared to other head and neck malignant tumour.

Research by Piccirillo and Yung (2008), out of 183 cases of head and neck malignant tumour, found that most sites were larynx (38.3%), then oral cavity (31.1%) and oropharynx (30.6%). Bhurgri et al (2006), in an epidemiological study of head and neck malignant tumour in Pakistan, found the highest location of tumour in patients over 40 years old was the oral cavity (30%), nasopharynx (28.6%), oropharynx (6.3%) and larynx (2.6%). The cross sectional study by Carvalho et al (2002) in various regions in Brazil, found 676 cases of head and neck malignant tumour patients. The most common were oral malignant tumour (32.4%), followed by laryngeal malignant tumour at 24.1% and oropharyngeal malignant tumour (20.4%).

The National Cancer Database for the period 1985-1994 in the United States reported that the most common location of head and neck malignant tumour was larynx (20.9%), followed by oral cavity (17.6%) and thyroid (15.8%) (Hoffman et al, 1998). A retrospective study by Iro and Waldfahrer (1998) found 3247 cases of head and neck malignancy at the German Nuremberg University in the period 1970-1990. The most common locations were malignant laryngeal tumour (40.7%), followed by oropharyngeal malignant tumour (23.8%) and the least location of tumour were maxillary sinus malignant tumour (1.9%). Deleyianis et al (1996) in his study of 649 cases of head and neck malignant tumour, found the most localized malignant tumour were oral cavity (35.4%), followed by larynx (33.1%) and the

least was hypopharynx (9, 8%). According to the literature, risk factors that cause a high incidence of oral cavity tumour, oropharynx and larynx in European countries, the United States are due to high alcoholism, smoking and oral sex in these countries (Forastiere and Marur, 2008; Goldenberg, et al. 2004).

CONCLUSION

This study found that neck head tumour were often found in the age group 41-65 years as many as 37 patients (66%), men and most were nasopharyngeal tumour (32%). The results of this study showed that the variation of head neck tumour in the RSUD Undata is no different compared to some centers in Indonesia and several other countries in the world.

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