MISDIAGNOSED OF NASOPHARYNGEAL CARCINOMA

Martina Marthailova^{1*}, Nani Iriani Djufri¹

¹Department of Otorhinolaryngology-Head and Neck Surgery Medical Faculty Hasanuddin University, Makassar, Indonesia

Abstract

Introduction: Nasopharyngeal carcinoma is the most common head and neck malignancy in Indonesia. Diagnosis errors often occur in nasopharyngeal carcinoma due to non-specific symptoms such as symptoms of an infectious disease that resemble the symptoms of nasopharyngeal carcinoma.

Case Report: In this case, it was explained how this diagnostic error occurred. A man, 39 years old with major complaints of right and left neck lumps, the patient initially came to an ear nose throat (ENT) specialist and performed fine needle aspiration (FNA) and suggested a biopsy. But the patient did not continue his treatment with ENT doctor. The patient continued his treatment at pulmonologist and was diagnosed with glandular Tuberculosis (TB) and received TB treatment. In the following 4th month on TB treatment, the lump in the right and left neck was felt bigger, then the pulmonary expert refers the patient to an oncology surgeon, afterwards the oncology surgeon department refers to ENT specialist due to the suspicion towards nasopharyngeal carcinoma. In the ENT department biopsy was performed on the nasopharynx and the result is bilateral nasopharyngeal Non-Keratinizing Cell Carcinoma, undifferentiated (WHO type III).

Conclusion: The patient was diagnosed with stage IV B nasopharyngeal carcinoma (T1N3M0). Currently, the patient has undergone 3 cycle of chemotherapy with paclitaxel and cisplatin regimen.

Article Info

Keywords:

Nasopharyngeal Carcinoma, Tuberculosis (TB), chemotherapy.

*Corresponding author:

Address: Jl. Perintis Kemerdekaan No.Km. 10, Tamalanrea Indah, Kec. Tamalanrea, Kota Makassar, Sulawesi Selatan 90245

e-mail: martinamartha18@gmail.com

1. CASE REPORT

Nasopharyngeal carcinoma is one of the most common tumor, with an incidence of 0.29 per 100,000 population. The highest incidence is in China, South Asia and North Africa [1]. While the cause of NPC is multifactorial, it is associated with an interaction between the chronic infection of the oncogenic gamma herpes virus Epstein-Barr virus in which the Epstein-Barr virus has infected more than 95% of the world's population. Besides environmental factors and genetic factors, it is also involved in carcinogenic multistep processes [2]. WHO divides nasopharyngeal carcinoma pathology into three histological types consisting of keratinizing squamous cell carcinoma, non-keratinizing carcinoma, which is divided into differentiated and undifferentiated subtypes. Undifferentiated non-keratinizing NPC is the most frequent and strong type associated with EBV (Epstein-Barr Virus) [3-5]. Nasopharyngeal carcinoma often occurs in the lateral wall of the nasopharynx, especially in the Rosenmuller fossa, but it can also occur in the superior and posterior walls. Most of the patient's main complaints are the presence of a lump in the neck accompanied by other symptoms in the nose such as epistaxis, nasal obstruction, blood stained rhinorrhea. In the ear, clinical features that often occur are tinnitus and serous otitis media due to blockage of the eustachian tube, another common complaint is cephalgia, a cranial nerve disorder that usually occurs with an intracranial spread that occurs in the advanced stage [1].

A man, 39 years old admitted to RSWS ENT outpatient clinic with major complaints of lumps in the right and left neck since three years ago, initially the lumps appeared as big as marble, lumps settled and enlarged since one year ago, epistaxis history exists, history of blood-stained rhinorrhea exists, cephalgia exists, tinnitus since one year ago, otalgia was present. The patient had been carried out FNA in the neck one year ago which was recommended by an ENT specialist. The result was Colli dextra: suspicious a malignant epithelial tumor metastasis (differential diagnosis: inflammation granulomatous) in Colli dextra, and granulomatous caused by TB inflammation can be considered in Colli sinistra. After underwent FNA examination, patient did not continue the examination to the ENT specialist, patient was continued treatment to a pulmonologist with complaints of coughing up blood, in the lung part X-ray thorax and sputum was done, but the result was within normal limit, then from the treatment in the lung part the patient is diagnosed with glandular TB and advised to take anti-tuberculosis drug for 6 months. In the following 4th

month of treatment, the lump in the neck was felt to be enlarged and pulmonologist referred patients to oncology surgeon, from oncology surgeon got suspicion towards the nasopharyngeal tumor afterwards they referred the patient to an ENT specialist.

From the physical examination of anterior rhinoscopy, the normal mucosa was obtained, the surface was smooth and not hyperemic, normal concha, the septal deviation was to the right, the phenomenon of the palatum molle was negative on the right and left side. On otoscopy and pharyngoscopy, the result was within normal limit. In the neck region examination, bilateral and multiple lymph nodes enlargements in the submandibular region with a size of 11x8x2cm, submental dextra size 4.5x3x1.5 cm, internal submandibular approximate 8x7x2 cm, deep inferior jugular 4x3x1.5 cm size. The CT scan examination of the coronal view of nasopharyngeal was then performed with the impression of bilateral nasopharyngeal mass suspicion, suspected right cervical lymphadenopathy, multi sinusitis, atrophic rhinitis and nasal septal deviation (figure 1). Then it was decided to do a nasopharyngeal biopsy via endoscopy. On endoscopy examination, there was mass in nasopharynx the dextra and sinistra nasopharynx with uneven surface, hyperemic, and bleed easily. Then we performed a biopsy of the nasopharyngeal tumor. The results of the biopsy are bilateral nasopharyngeal Non-keratinizing Cell Carcinoma, Undifferentiated (WHO type III).

The examination was followed by an examination of the thoracic roentgen, abdominal ultrasound and bone survey and no signs of metastasis were found on the three examinations. The conclusion was that the patient was diagnosed with stage IV B nasopharyngeal carcinoma (T1N3M0) and decided to administer chemotherapy with paclitaxel and cisplatin regimens. Currently, the patient has undergone the third cycle of chemotherapy.

Picture 1. CT scan of the nasopharynx (coronal view)

Picture 2. Photos of patients before chemotherapy

Picture 3. Photos of patients after underwent the third cycle of chemotherapy

2. DISCUSSION

The most common complaint in nasopharyngeal carcinoma is cervical lymphadenopathy, which is followed by complaints of nasal obstruction, epistaxis, and serous otitis media [6, 7]. Approximately 70% of nasopharyngeal carcinoma patients initially came to a doctor with major complaint of the neck mass, and 60 to 96% of nasopharyngeal carcinoma patients show cervical lymph node adenopathy [2, 6]. Tuberculosis (TB) has remained one of the world's deadliest communicable diseases. It can affect the lung (pulmonary TB) and other sites (extrapulmonary TB) as well. According to the WHO 2014, 6.1 million cases of TB were reported with 5.7 million newly diagnosed cases and 0.4 million previously diagnosed cases [6, 8]. In new cases, 0.8 million patients had extrapulmonary TB. Head and neck regions can be present in up to 10% of all TB cases with cervical lymph nodes most commonly involved [9]. In this case report, patients with early complaints of lumps in the right and left neck, which is one symptom that often occurs in nasopharyngeal carcinoma and specific infection. In this case, the symptoms of nasopharyngeal carcinoma were disguised due to complaints of coughing up blood which is one of the symptoms of the infection process and was supported by FNA results that leads to tuberculosis infection. Some studies state that there are three factors that cause the misdiagnosis of NPC, which are patient factors (patient delay), facilities and infrastructures at health facilities, and the doctor [2, 10].

Nasopharyngeal carcinoma is the most malignant tumor found among malignant ENT tumors in Indonesia, where nasopharyngeal carcinoma is included in the top five malignant tumors with the highest frequency, whereas in the head and neck area occupies the first place [6, 10, 11].

Early detection of NPC is difficult, but early diagnosis is important to achieve optimum results of treatment [12, 13], in this case when the patient first develops a lump in the neck, the FNA results have shown signs of suspicion towards nasopharyngeal carcinoma, but the patient does not continue treatment at ENT. For this reason, it is very important for a doctor to be more careful in diagnosing a disease, especially if from the examination of anatomical pathology to the two diagnoses, it is better to do an additional investigation before establishing a diagnosis and doing therapy [14].

Before the patient underwent treatment for glandular TB, a lump in the neck of the patient with a size of <6 cm. When this patient came to RSWS ENT outpatient clinic with a size of a lump in the neck > 6 cm after 4 months of anti-tuberculosis drug administration, the patient has concluded with stage IVB nasopharyngeal carcinoma (T1N3M0). Patients in early-stage NPC (T1, T2, N0-1 without metastasis) have 5 years survival rate of 85%, while in advanced stage (T3, T4, and N2, N3 without metastasis) the 5 years survival rate is 65%. 5.8 The 10 years free disease rate in the early stage is 67-71% and for the advanced stage, it is 29-54%. Therefore, it is important to recognize factors related to the delay of symptoms and misdiagnosis to improve identification and early management [2, 6, 15].

3. CONCLUSION

Early detection of nasopharyngeal carcinoma is quite difficult due to non-specific symptoms that cause diagnostic errors when the patient comes to the hospital for the first time. In establishing a diagnosis of nasopharyngeal carcinoma it is very important to pay attention to every symptom and sign that is present in the patient, symptoms that are similar between several diseases require additional checks that must be done to establish a definite diagnosis. Therefore the need to improve patient knowledge in recognizing symptoms of malignancy and awareness to check their health to the right expert doctor and to increase the knowledge of health workers in performing history taking, physical examination and more complete investigation to establish a diagnosis of nasopharyngeal carcinoma to avoid misdiagnosis which can have an impact on the patient's survival rate.

REFERENCE

- [1] Sandhu KS, Chaudary P, Kumari A, Singh J. An unusual presentation of nasopharyngeal carcinoma. *International Journal of Otorhinolaryngology Head Neck Surgery*. 2017;3(4):1117.
- [2] Tabuchi K, Nakayama M, Nishimura B, Hayashi K, Hara A. Early detection of nasopharyngeal carcinoma. *International journal of otolaryngology*. 2011;2011.
- [3] Umar B, Ahmed R. Nasopharyngeal carcinoma, an analysis of histological subtypes and their association with EBV, a study of 100 cases of Pakistani population. *Asian Journal of Medical Sciences*. 2014;5(4):16-20.
- [4] Chien Y-C, Chen J-Y, Liu M-Y, Yang H-I, Hsu M-M, Chen C-J, et al. Serologic markers of Epstein-Barr virus infection and nasopharyngeal carcinoma in Taiwanese men. *New England Journal of Medicine*. 2001;345(26):1877-82.
- [5] Chang K-P, Hsu C-L, Chang Y-L, Tsang N-M, Chen C-K, Lee T-J, et al. Complementary serum test of antibodies to Epstein-Barr virus nuclear antigen-1 and early antigen: a possible alternative for primary screening of nasopharyngeal carcinoma. *Oral oncology*. 2008;44(8):784-92.
- [6] Srivanitchapoom C, Sittitrai P. Nasopharyngeal tuberculosis: epidemiology, mechanism of infection, clinical manifestations, and management. *International journal of otolaryngology*. 2016;2016.
- [7] Wu Z-X, Xiang L, Rong J-F, He H-L, Li D. Nasopharyngeal carcinoma with headaches as the main symptom: A potential diagnostic pitfall. *Journal of cancer research therapeutics*. 2016;12(1):209.
- [8] Baddeley A, Dean A, Dias H, Falzon D, Floyd K, Baena I, et al. Global tuberculosis report 2013. World Health Organization. 2014:113-36.
- [9] Menon K, Bem C, Gouldsbrough D, Strachan D. A clinical review of 128 cases of head and neck tuberculosis presenting over a 10-year period in Bradford, UK. *The Journal of Laryngology Otology*. 2007;121(4):362-8.
- [10] Lee A, Ma B, Ng WT, Chan A. Management of nasopharyngeal carcinoma: current practice and future perspective. *J Clin Oncol*. 2015;33(29):3356-64.
- [11] Ma BB, Hui EP, Chan AT. Systemic approach to improving treatment outcome in nasopharyngeal carcinoma: current and future directions. *Cancer science*. 2008;99(7):1311-8.
- [12] Rottey S, Madani I, Deron P, Van Belle S. Modern treatment for nasopharyngeal carcinoma: current status and prospects. *Current opinion in oncology*. 2011;23(3):254-8.
- [13] Yoshizaki T, Ito M, Murono S, Wakisaka N, Kondo S, Endo K. Current understanding and management of nasopharyngeal carcinoma. *Auris Nasus Larynx*. 2012;39(2):137-44.
- [14] Soehartono RP, Kentjono W. Hubungan antara ekspresi latent membrane protein-1 dengan peningkatan ekspresi epidermal growth factor receptor pada karsinoma nasofaring jenis undifferentiated. *ORLI*. 2007;31(3):1-35.
- [15] Edge SB, Compton CC. The American Joint Committee on Cancer: the 7th edition of the AJCC cancer staging manual and the future of TNM. *Annals of surgical oncology*. 2010;17(6):1471-4.