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The whole family is nasopharyngeal cancer?

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Abstract

Background Nasopharyngeal carcinoma (NPC) is particularly prevalent in the southern provinces of China, the aetiology of NPC is multifactorial but not clear. NPC case reports have a long history and many NPC cases of familial aggregation reported, but no report about NPC in parents and children in one family.

Case Presentation We report a rare case of familial aggregation of NPC, according to the order of incidence, this paper collected 5 cases of NPC in one family: father, mother, sons and daughters; to explore their diagnosis, treatment process and follow-up to understand the prognosis of the disease.

Conclusion From this case we can explore the most possible causes and possible measures for the family aggregation of NPC.

Keywords: nasopharyngeal cancer; familial aggregation; follow up

Background

Nasopharyngeal carcinoma (NPC) is characterised by distinct geographical distribution and is particularly prevalent in east and southeast Asia, especially have high incidence in the southern provinces of China^[1]. Recent studies have shown that the incidence and mortality of NPC in China are significantly higher than other countries in the world^[2]. In recent decades scientists have done a lot of work, they all think the aetiology is multifactorial: racial and geographical distribution, EBV infection and environmental exposure to specific substances and so on are considered risk factors^[3-5]. NPC case reports have a long history, and there are many NPC cases of familial aggregation reported in the literature^[5-9], but no report of NPC in parents and children.

Cases reports

Now turn to our report: The parents and children is a total of 6 people family 5 get NPC. At present, only the youngest daughter did not find the disease.

According to the order of onset:

Patient 1 mou ning, male, 26-year-old. due to hearing loss in the left ear one year, with blood in the mucus one month in 2000-10-02 entering Lingshan Hospital of Traditional Chinese Medicine in Guangxi. History review: at the age of 14, ning left home to go to school, and at the age of 18, he left his hometown to work abroad. Physical examination: cranial nerve localization Physical signs (-). There was no enlargement of cervical lymph nodes. 2000-10-03 Guangxi Lingshan Hospital of Traditional Chinese Medicine CT Diagnosis

suggests nasopharyngeal carcinoma.2000-10-05 First Affiliated Hospital of Guangxi Medical University Pathological diagnosis:poorly differentiated squamous cell carcinoma of nasopharynx, No abnormalities were found in the super-examination with chest X-ray and abdomen B-ultrasonography. Clinical stage was T2N0M0 II stage(92 Fuzhou staging). From 7 October 2000 routine radiotherapy of 6MV X-ray was started and the total dose unknown. No recurrence was found in the follow-up till now.

Patient 2, Ning mou's mother, 57 years old, due to the right neck mass for more than three months, she went to hospital on November 18, 2001. History review: She has been living in Lingshan hometown, there was no history of nasopharyngeal carcinoma in both parents, brothers and sisters. Physical examination: the hearing of the right ear decreased slightly, and the location signs of the remaining cranial nerves (-); the right upper neck touched a swollen lymph node, which was about 1cm x 1.5cm x 1cm in size, and the mobility was acceptable, but the left neck lymph node was not touched; the right pharyngeal recess was raised with necrosis attached to the surface under the posterior nasoscope. CT diagnosis of Guangxi Lingshan Hospital of Traditional Chinese Medicine in November 20, 2001 was nasopharyngeal carcinoma. and Pathological diagnosis in Lingshan People's Hospital of Guangxi in November 23, 2001 was nasopharyngeal poorly differentiated squamous cell carcinoma, not found abnormally by chest X-ray and abdomen B-ultrasonography. Detection of EB virus indicated that the titer of EB virus shell antibody (VCA-IgA) was 1:10. The clinical stage was T1N1M0 II (92' Fuzhou staging). from November 27, 2001, Six MV X-ray conventional radiotherapy and three cycles of chemotherapy were performed. The dosage of radiotherapy and chemotherapy were unknown. No recurrence has been found in the follow-up till now.

Patient 3, Ningmou's brother, 30-year-old who went to hospital on December 2, 2003 of Lingshan Hospital of Traditional Chinese Medicine in Guangxi due to a left neck mass for more than four months. History review: At the age of 17, he left his hometown for work. Physical examination: left ear hearing loss, left side anesthesia, no diplopia and eyeball fixation; left neck touched enlarged lymph nodes, hard, about 2cm x 2cm x 1.5cm in size, poor mobility, right neck lymph nodes not touched, chest X-ray and abdominal B-ultrasonography showed no

abnormalities, Detection of EB virus indicated that the titer of EB virus shell antibody (VCA-IgA) was 1:10. CT diagnosis of Guangxi Lingshan Hospital of Traditional Chinese Medicine in December 3, 2003 was nasopharyngeal carcinoma. and Pathological diagnosis in Lingshan People's Hospital of Guangxi in December 5, 2003 was nasopharyngeal poorly differentiated squamous cell carcinoma. The clinical stage was T2N1M0 II stage (92'Fuzhou staging). From December 5, 2003 conventional radiotherapy of 6-MV X-ray in Guangxi Lingshan County Hospital of Traditional Chinese Medicine, The total local dose of nasopharynx was 72 Gy/36 times, The total local dose of cervical lymph node positive area was DT72Gy/36 times. From mid-March 2008, he died of relapse with distant metastasis.

Patient 4, Ningmou's sister, 29-year-old who in hospital on June 19, 2008 of Lingshan Hospital of Traditional Chinese Medicine in Guangxi due to bilateral tinnitus, right neck mass for more than one year, epistaxis for 2 days. Physical examination: Cranial nerve localization sign (-), right upper neck touched a swollen lymph node, hard, about 2cm x 2cm x 3.5cm in size, fixed, left neck lymph node untouched; Chest X-ray and abdominal B-ultrasonography showed no abnormality. Detection of EB virus indicated that the titer of EB virus shell antibody (VCA-IgA) was 1:10. CT diagnosis of Guangxi Lingshan Hospital of Traditional Chinese Medicine in June 21, 2008 was nasopharyngeal carcinoma. and Pathological diagnosis in Guangxi Cancer Hospital in June 29, 2008 was poorly differentiated squamous cell carcinoma. The clinical stage was T2N1M0 II stage (92'Fuzhou staging). From July 2, 2008 conventional radiotherapy of 6-MV X-ray in Guangxi Cancer Hospital, The facio-cervical joint field and the cervical tangent field were set up: The total local dose of nasopharynx was 70 Gy/35 times (49 days). The total dose of cervical lymph node positive area was 64 Gy/32 times (45 days), and the total dose of cervical preventive radiation was 52 Gy/26 times (37 days). Four cycles of cisplatin combined with 5-fluorouracil regimen chemotherapy after concurrent and radiotherapy. No recurrence has been found in the follow-up till now.

Patient 5, Ningmou's father, 63-year-old who in hospital on July 7, 2009 of Lingshan Hospital of Traditional Chinese Medicine in Guangxi, There was no history of nasopharyngeal carcinoma in both parents, brothers and sisters. Physical examination: left hearing loss, blurred vision and double shadows in the left eye, no abduction of the left eyeball, no deviation of the

lips,middle extension of the tongue; left neck touched a swollen lymph node,hard,about 3cm x 2cm x 1.5cm in size,poor mobility,right neck lymph node untouched,Chest X-ray and abdominal B-ultrasonography showed no abnormality.Detection of EB virus indicated that the titer of EB virus shell antibody (VCA-IgA) was 1:5.CT diagnosis of Guangxi Lingshan Hospital of Traditional Chinese Medicine in August 2,2009 was nasopharyngeal carcinoma.and Pathological diagnosis in Guangxi Cancer Hospital in August 5,2009 was Poorly differentiated non-keratinizing squamous cell carcinoma.The clinical stage was T4N2M0 IVA Period (2008 staging) form August 5,2009 conventional radiotherapy of 6-MV X-ray in Guangxi Cancer Hospital,The facio-cervical joint field and the cervical tangent field were set up:The total local dose of nasopharynx was 70 Gy/35 times (49days).The total dose of cervical lymph node positive area was 64 Gy/32 times (45 days),and the total dose of cervical preventive radiation was 52Gy/26 times (37 days).Four cycles of cisplatin combined with 5-fluorouracil regimen chemotherapy after concurrent and radiotherapy.Follow-up in september 2019, the phone was hung up by the family.

Discussion and conclusion

There are many pathogenic factors of NPC^[1,3-4,10].The incidence of nasopharyngeal carcinoma is related to genetic and environmental carcinogenic factors.Some people think that it may be an individual with hereditary susceptibility to infection who has been affected by carcinogens.Many reports have revealed that EB virus infection is closely related to the pathogenesis of nasopharyngeal carcinoma^[5,11-13].More data show that nasopharyngeal carcinoma patients have racial and familial aggregation^[5,14-19].This group of cases is a typical case of familial aggregation.Of the 2 generations with blood relationship,5 out of 6 suffered from nasopharyngeal cancer.There are three points worth discussing in this case.

1)Inquiry about medical history:family members of patients like to eat pickles,daily consumption,and large quantities;drinking water for a long time is underground well water.It suggests that environmental factors may be responsible.People living in the same environment did not find nasopharyngeal cancer patients, and patients 1 and 3 left home for study and work

when they were in their 10s. The inference caused by environment deserves further discussion.

2) Questioning family history: the nephew of patient 2 died of illness (almost the same time as patient 1, died of incurable illness 1 year after illness). No parents, brothers or sisters of patient 5 had this disease. These results suggest that the cases may be caused by genetic factors and may be inherited from the mother. There are many genetic reports of NPC^[14-15]. and It has been reported that there are family pathogenic genes in NPC^[5,16].

3) Epstein-Barr Virus Survey: Studies have shown that Epstein-Barr Virus (EBV) is helpful in clinical diagnosis of nasopharyngeal carcinoma (NPC)^[1,5]. To some extent, EBV antibodies can monitor the prognosis and prognosis of NPC. Epstein-Barr virus (EB) shell antibodies were increased in patients 1,2,3,4 and 5. We collected venous blood from 6 patients (patient 1,2,4,5, daughter of patient 1, two sons of patient 3, for patient 3 has died) in this family from August 2009 to detect the anti-EB virus. The body was negative (antibody titer < 1:5). This is consistent with clinical practice (EB virus antibody titers decrease or turn negative after treatment). It can be concluded that there is a certain relationship between nasopharyngeal cancer and EB virus infection in their daily life, but there is still one person who has not suffered from nasopharyngeal cancer. The inference of EB virus infection is worth further discussion.

We will continue to follow up the 4 surviving children in this group and pay close attention to the only girl in this family who is not ill. We will regularly test the titers of antibodies against EB virus. Members of the nasopharyngeal carcinoma family have a specific genetic variation pattern^[5,15-16], and their intravenous anticoagulation has been isolated and cryopreserved for gene-related research. The etiology of nasopharyngeal carcinoma is complex and diverse, but family clustering and family inheritance have evidence to follow. Therefore, for family members with nasopharyngeal cancer patients, attention should be paid to the regular inspection of nasopharyngeal cancer in the hospital, so as to achieve the purpose of early diagnosis and treatment. In order to improve the quality of life of patients, prolong the survival period^[15,20-21].

List of abbreviations:Nasopharyngeal carcinoma--NPC

Ethical Approval and Consent to participate:This work get ethics approval and consent to participate

Consent for publication:All authors consent for publication

Availability of data and materials:The data presented in this paper can be retrieved from the medical record room of Guangxi cancer hospital and Guangxi Lingshan Hospital of traditional Chinese medicine.

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Authors' contributions:Dali Feng collect all case data and write papers,Tingting Zhang review case data and follow-up work.Wenliang Zhu carry out standardized examination of case diagnosis and treatment.Yukun Liu conduct case diagnosis and treatment standard review and writing guidance.All authors read and approved the final manuscript.

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