A rare presentation recurrent nasopharyngeal carcinoma with axillary lymph node metastasis

Case Report

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ABSTRACT

Introduction: Nasopharyngeal carcinoma (NPC) has the highest rate of local and regional cervical lymph node recurrence amongst other head and neck epithelial malignant tumour. Distant recurrence is less common and usually occurs in bone, liver and lung. Recurrent NPC to axillary lymph node is rare.

Case report: A 44-year-old male presented with two-month history of painless right axillary swelling. He was diagnosed with nasopharyngeal carcinoma (NPC) stage IVA (T2N3M0) two years prior to presentation and had underwent neoadjuvant chemotherapy with 5-Fluorouracil and Cisplatin, and concurrent chemo-radiotherapy (CCRT) of total 70 Gy over 35 sessions with Cisplatin. He was on regular monthly surveillance reviews, with no signs of recurrence. Fine Needle Aspiration Cytology (FNAC) of the axillary swelling was reported as metastatic NPC and Positron Emission Tomography/ Com-puted tomography (PET-CT) scan showed foci of high FDG hypermetabolism at right axillary lymph node confirming the diagnosis of recurrent NPC.

Conclusion: Recurrence usually occurs in the first two years after completion of treatment. Patients with an overall TNM stage IV or N3, high pre-treatment or persistently detectable post-treatment plasma EBV DNA (pEBV DNA) load are at greatest risk. Management of recurrent NPC depends on local, regional or distant recurrence. Both PET scan and pEBV DNA load can be used for relapse detection. The man-agement for each recurrent NPC case is unique and should be determined by a multidisciplinary team, local expertise and facilities. Knowledge of potential sites of recurrence is essential to both physicians and patients for early detection.

Key Words: Carcinoma, HMGA2, laryngeal, MMP12

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INTRODUCTION

Nasopharyngeal carcinoma (NPC) is an Epstein–Barr virus (EBV)-associated epithelial malignant tumour of nasopharynx. It is prevalent in Southeast Asia, Southern China and North Africa. In Malaysia, NPC is the fourth most common cancer (5.2%) with an overall five-year survival rate of 46%[1,2]. Amongst other head and neck epithelial malignant tumour, NPC has the highest rate of local and regional cervical lymph node recurrence. Distant recurrence is less common. We report a case of recurrent nasopharyngeal carcinoma (NPC) presented with axillary swelling. The objective of this report is to highlight a potential yet rare site of recurrence in NPC to aid early detection and treatment initiation.

CASE REPORT

A 44-year-old male presented with two-month history of painless right axillary swelling. He has underlying nasopharyngeal carcinoma (NPC) stage IVA (T2N3M0), diagnosed two years prior to current presentation, with right neck swelling as the only presenting complaint. At that time, nasal endoscopic examination revealed a mass in right Fossa of Rosenmuller (FOR) and biopsy of the mass confirmed non- keratinizing carcinoma (WHO classification Type II). He underwent neoadjuvant chemotherapy, followed by concurrent chemo-radiotherapy (CCRT). Neoadjuvant chemotherapy used were 5-Fluorouracil (750mg/m2) and Cisplatin (75mg/m2) for two sessions. RT was delivered via linac machine using IMRT (Intensity Modulated Radiation Therapy) technique with 6MV energy. Total radiotherapy delivered was 70 Gy over 35 sessions in seven weeks (2.0 Gy delivered each session). Concurrent chemotherapy used was two-weekly cisplatin (40mg/m2). He was on regular monthly surveillance reviews, with no signs of residual or recurrent disease. Two years after treatment completion, he complained of increasing, painless right axillary swelling with no associated nasal or auditory symptoms. Clinical examination revealed two axillary swelling measuring 2 x 2 cm each, firm and fixed with no palpable neck swelling. Systemic examination was unremarkable. Nasal

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endoscopic examination did not reveal any mass in the nasopharynx. Fine Needle Aspiration Cytology (FNAC) of the axillary swelling showed atypical cells with moderately large round topleomorphic nuclei with coarse chromatin and prominent nucleoli, consistent with metastatic NPC (Figure 1). Contrast Enhanced Computed Tomography (CECT) scan of brain, neck, thorax and abdomen showed no enhancing mass at nasopharynx, no enlarged cervical lymph nodes, multiple enlarged right axillary lymph nodes and no other distant metastases (Figure 2). 18F- FDG Positron Emission Tomography/ Computed tomography (PET-CT) scan showed foci of high FDG hypermetabolism at right axillary and anterior mediastinal lymph nodes (Figure 3). FDG metabolism at nasopharynx was physiological. Patient was treated as recurrent NPC and was started on chemotherapy with Gemcitabine and Carboplatin for four sessions over twelve weeks (one session every three weeks). Unfortunately, he did not respond to chemotherapy and finally succumbed to his illness.

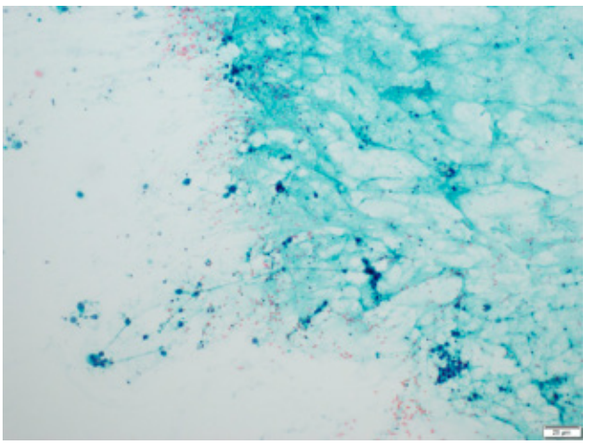

Fig. 1: FNAC of the axillary swelling was consistent with metastatic NPC.

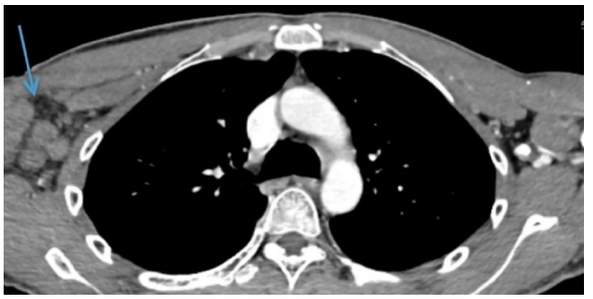

Fig. 2: xCECT scan of brain, neck, thorax and abdomen showed multiple enlarged right axillary lymph nodes.

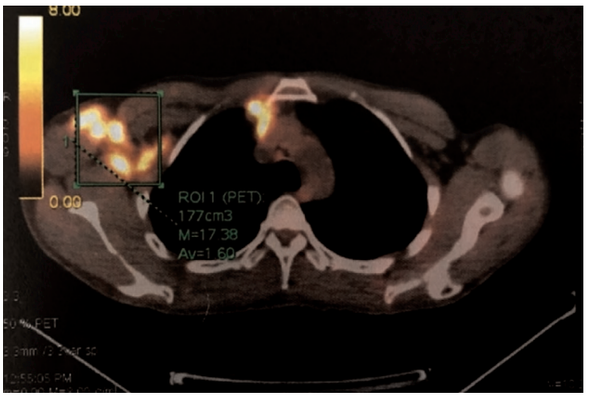

Fig. 3: PET-CT scan showed high FDG hypermetabolism at right axillary lymph nodes.

DISCUSSION

Axillary lymph node metastasis is common in cancer originating from breast and lung[3]. Recurrent NPC with axillary lymph node metastasis is rare. Only a few cases have been reported in the literature to the best of our knowledge. In 1999, The Johns Hopkins University Department of Otolaryngology- Head and Neck Surgery reported four cases of metastasis to the axilla from head and neck primary sites. However, each patient had developed a new primary or recurrent cancer at primary site before the detection of axillary metastasis[4]. In our case, there was no clinical or radiological evidence of recurrence in nasopharynx. The Memorial Sloan-Kettering Cancer Center reported that from 1990 to 2010, there were 85 cases of axillary lymph node metastases from a non-mammary primary sites. 8% of the cases originated from head and neck, but there was no reported case of NPC[5].

Axillary lymph node metastasis in NPC can be explained by the spread of nodal metastases in the cephalad-caudal direction in NPC via lymphatic system. Supraclavicular nodes are the next station for tumor spread. These nodes drain to superior mediastinal and axillary nodes[8]. Another explanation is the structures adjacent to the nasopharynx were destroyed by radiation during the first treatment resulting in diminished local blood supply that is unfavorable for tumor growth. Therefore, the tumor relocates and occurs far from the nasopharynx such as the axilla[6].

Recurrent NPC is common due to advanced stage of NPC at diagnosis[1]. This is because majority of patients have

advanced loco-regional disease with cervical metastases at the time of initial presentation. The most common pattern of recurrence was local (73.5%), both local and regional cervical lymph nodes (21.7%) and distant metastasis (6.6%). Common sites involved in distant metastasis are bone, lung and liver. Median recurrent interval time was about two years after completion of treatment[6]. Therefore, the first two years is a critical period for surveillance. Thorough history and examination must be performed during each follow up. Patients must also be advised on potential sites of recurrence to ensure early detection. In patients with suspected recurrence, a new primary tumor must also be ruled out. PET scan is an excellent modality in detecting recurrence and has been found to be was 81.8% sensitive[7].

Identification of high-risk patients for developing treatment failure is an important step in NPC management. This is because they are at high risk of developing tumor recurrence. Overall TNM staging particularly N-staging and plasma EBV DNA load (pEBV DNA) are currently the most important prognostic markers. Patients with an overall TNM stage IV or N3, high pre-treatment pEBV DNA load and persistently detectable post-treatment pEBV DNA load are at greatest risk. pEBV DNA has been found to be 100% sensitive for treatment response evaluation and relapse detection[7].

NPC has been shown to be a radio- and chemo-sensitive tumor and CCRT is the main treatment for advanced NPC[7]. For recurrent tumor, the treatment modality depends on local, regional or distant recurrence. Treatment options for local recurrence are nasopharyngectomy and re-irradiation with RT or brachytherapy. For regional recurrence, treatment options are radical neck dissection (RND), re-irradiation or chemotherapy. For distant recurrence, treatment options include chemotherapy, RT and palliative care. However, management is largely based on the extent of disease and patients' Eastern Cooperative Oncology Group (ECOG) performance status. Patients whom receive multimodality treatment such as chemotherapy and RT, have significantly increased survival rate compared to patients whom receive chemotherapy alone[1]. At present, there is insufficient evidence to assess outcome of axillary lymph node dissection as surgical treatment for isolated axillary lymph node metastasis.

CONCLUSION

Recurrent NPC contributes to substantial disease burden. Therefore, early detection is crucial to prevent delay in initiating treatment and to improve survival outcome. Thorough history and examination must be performed during surveillance reviews especially in the first two years after treatment completion. Both PET scan and pEBV DNA load can be used for relapse detection with good sensitivities. Management of recurrent NPC depends on local, regional or distant recurrence. The management for each recurrent NPC case is unique and should be determined by a multidisciplinary team, local expertise and facilities. Knowledge of potential sites of recurrence is essential to both physicians and patients for early detection.

CONFLICT OF INTERESTS:

There are no conflicts of interest

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