Anaplastology
ISSN: 2161-1173

Lee et al., Anaplastology 2013, 2:5
DOI: 10.4172/2161-1173.1000118

Case Report Open Access

Malignant Fibrous Histiocytoma of the Preauricular Area

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Abstract

Malignant Fibrous Histiocytoma (MFH) typically arises in the soft tissue of the extremities and retroperitoneum, and the head and neck region is seldom involved. We present a case of MFH of the preauricular area treated by radical excision of the tumor with local bi-lobed flap reconstruction and postoperative radiotherapy. MFH of the preauricular area is a difficult site to treat, but combined therapy using radical excision of the tumor with local bi-lobed flap reconstruction and postoperative radiotherapy showed good cosmetic and functional results.

Keywords: Malignant fibrous histiocytoma; Face; Excision; Radiotherapy

Introduction

Malignant fibrous histiocytoma (MFH) is one of the most common soft-tissue sarcomas and generally arises in elderly patients [1]. MFH has a predilection for the extremities and the retroperitoneum, thus the incidence of head and neck MFH is relatively rare [1,2]. Herein, we present a case of MFH of the preauricular area treated by radical excision of the tumor with local bi-lobed flap reconstruction and postoperative radiotherapy.

Case Report

A 62-year-old male presented with a firm, painless, fixed and rapidly growing mass in the right preauricular area. There was an approximately 3 × 3 cm sized bluish to reddish round exophytic mass, which had infiltrated the skin and the deeper soft tissue layers of the preauricular area (Figure 1). Two months previously, a benign, painless, slow-growing 0.5 × 0.5 cm sized mass had been removed from the same location by excision biopsy at a local hospital. The diagnosis of the specimen at the local hospital was a sebaceous cyst. However, after excision biopsy, the patient was referred to our department because of a fast growing mass at the operative site.

F-18 fluoro-2-deoxyglucose positron emission tomography/computed tomography (CT) revealed an approximately 3 × 3 cm sized round, homogenously enhanced solid mass infiltrating the skin and the deeper soft tissue layers of the preauricular area without regional lymph nodes or distant metastasis (Figure 2). There was no invasion to the surrounding structures, including the parotid gland and vascular structures. Cytologic examination of the preauricular area mass using a fine-needle aspiration biopsy revealed a malignant tumor.

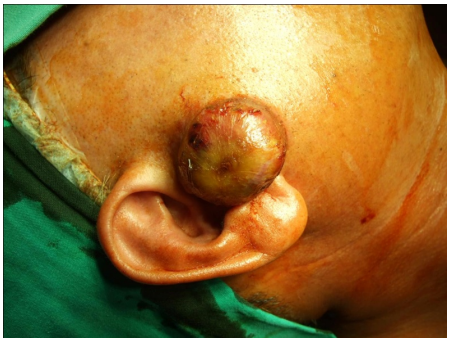

Figure 1: Preoperative view demonstrating a 3 x 3 cm sized bluish to reddish round exophytic mass infiltrating the skin and the deeper soft tissue layers of the right preauricular area.

The patient underwent radical excision of the tumor with a safety margin of 1 cm circumferentially and total parotidectomy, which resulted in a cosmetic defect of the right face that was immediately reconstructed by a local bi-lobed flap (Figure 3). The parotid gland was not involved by tumor. No partial or complete facial dysfunction was noted. The pathological examination revealed a high-grade of MFH (Figure 4). The postoperative course was uneventful, and the patient underwent radiotherapy (total dose, 5040 cGy). The patient remains well with no signs of tumor recurrence and full cosmetic and functional recovery at the 5-year follow-up examination (Figure 5). This article was approved by the Institutional Review Board of Chonnam National University Hwasun Hospital.

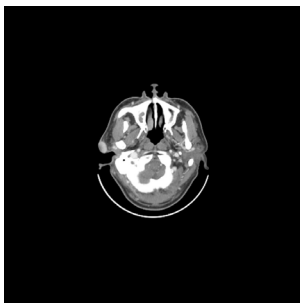

Figure 2: Computed tomography with contrast enhancement shows a homogeneous, marked enhanced 3 x 3 cm sized solid mass, infiltrated the skin and the deeper soft tissue layers of the preauricular area.

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Received August 14, 2013; **Accepted** September 14, 2013; **Published** September 17, 2013

Citation: Lee DH, Kim JH, Yoon TM, Lim SC, Lee JK (2013) Malignant Fibrous Histiocytoma of the Preauricular Area. Anaplastology 2: 118. doi: 10.4172/2161-1173.1000118

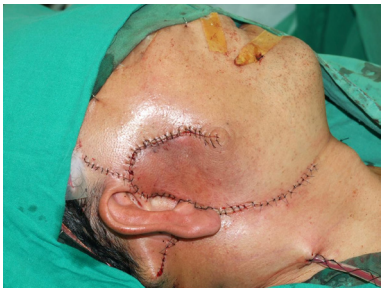

Figure 3: Intraoperative view demonstrating a reconstructed lesion with local bi-lobed flap after radical excision.

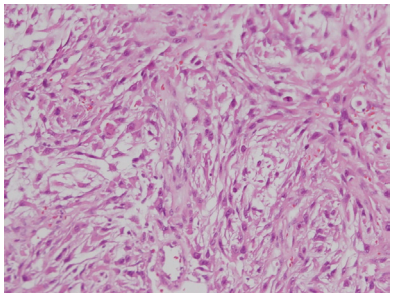

Figure 4: Histopathologic results shows pleomorphic spindle cells are arranged haphazardly and many mitotic figures are noted. (Hematoxylin and eosin, X200).

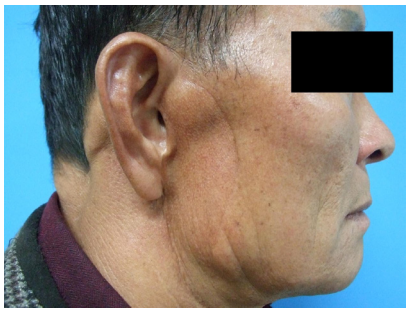

Figure 5: Five years postoperatively with full cosmetic and functional recovery.

Discussion

MFH typically arises in the soft tissues of the extremities and retroperitoneum. Head and neck region involvement has been reported in 3-10% of cases, with the majority occurring in the sinonasal tract, followed by the soft tissue of the face and neck, the oral cavity, and the craniofacial bones [3,4]. Location in the preauricular area without involvement of parotid gland is not common, as like our case. The most common presenting symptoms of MFH are a painless, well-circumscribed mass that is firmly adherent to the surrounding tissue [5].

The reported CT and magnetic resonance imaging features of MFH have been nonspecific [4]. Although the imaging studies are very helpful for surgical planning by adequate demonstration of the MFH extent, the specific radiologic diagnosis can be difficult [4]. In addition, the morphology of MFH is highly variable, even within an individual tumor; diagnosis is difficult with small biopsy specimens [5]. A preoperative radiologic and pathologic diagnosis was not achieved in our case. Therefore, the distinction from MFH typically requires clinical and radiographic correlation with cytopathology [1].

The head and neck MFH can be confused with a variety of fibrous tumors, inflammatory conditions and sarcomas, such as neurilemmoma, fibromatosis, pleomorphic leiomyosarcoma, malignant peripheral nerve sheath tumor, soft-tissue osteosarcoma, gliosarcoma, or malignant gliomas [1,4,5].

The treatment of choice for MFH of the head and neck is the radical excision of the lesion [1-5]. However, for MFHs of the head and neck, the lesion is often difficult to resect with a wide margin of safety without causing unacceptable functional and cosmetic deformity [5]. Postoperative radiotherapy or chemotherapy have generally been used as adjunctive or palliative measures, and they may reduce local recurrence and augment survival rates [1,6,7]. In our case, we performed postoperative radiotherapy, because MFH was a high-grade malignancy.

The overall 5-year survival rate of MFH has been reported to be 39-77% [1,4]. Main determinants of negative outcomes among patients with MFH include positive surgical margins, tumors located in the head and neck region, tumor size ≥ 5 cm, deep location, and high-grade [7].

In conclusion, MFH of the preauricular area might be better controlled with combined therapy using radical excision and radiotherapy. MFH of the preauricular area was a difficult site to treat, but combined therapy using radical excision of the tumor with local bi-lobed flap reconstruction and postoperative radiotherapy showed good cosmetic and functional results.

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