



Thyroid Nodule: An Unusual Presentation of Relapse of Multiple Myeloma

Tiroid Nodülü: Multipl Miyelom Nüksünün Sıra Dışı Bir Prezantasyonu

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Abstract

Multiple myeloma symbolizes malignant proliferation of plasma cells derived from a single clone. In multiple myeloma, the involvement of the soft tissue, thyroid gland, and thyroid cartilage is rarely seen. The authors report a rare case of extraosseous involvement of multiple myeloma in a patient who presented with thyroid swelling and hoarseness.

Keywords: Multiple myeloma; thyroid nodule; plasmacytoma

Özet

Multipl miyelom, tek bir klondan köken alan plazma hücrelerinin malign proliferasyonunu simgelemektedir. Multipl miyelomda; yumuşak doku, tiroid bezi ve tiroid kartilajının tutulumu nadiren görülmektedir. Araştırmacılar, tiroide şişlik ve ses kısıklığı ile başvuran bir hastada multipl miyelomun ekstraosseöz tutulumuna dair nadir bir vaka bildirmişlerdir.

Anahtar kelimeler: Multipl miyelom; tiroid nodülü; plazmasitomlar

Introduction

Solitary bone plasmacytoma, extramedullary plasmacytoma (EMP) and Multiple Myeloma (MM) represent a continuum of plasma cell neoplasms. Both extramedullary plasmacytoma and MM involve soft tissues. In MM, soft tissue involvement can either be due to spread from an intraosseous plasmacytoma or it may be a distant metastatic disease (1). Laryngeal involvement in multiple myeloma is rarely seen. The authors here report a case of extramedullary relapse of MM, presenting as a thyroid swelling.

Case report

A 50-year-old male presented with a complaint of hoarseness since six months. The patient was diagnosed with multiple myeloma two years ago when he complained of back pain. On subsequent investigations, a lytic lesion was observed in the

lumbar vertebrae D8-D10 and the serum revealed M band, with bone marrow biopsy presenting >30% plasma cells. The patient received chemotherapy and screw fixation of D8-D10 vertebral bodies was done; remission was acquired after six months. The patient was on regular follow up until six months back when he noticed a change in voice for which he was referred to otolaryngology OPD. There was no associated dysphagia or respiratory complexity. Physical examination disclosed that the patient had an average built. On local examination, a bulge was noted in the anterior aspect of the neck just lateral to the midline on the right side, which moved on deglutition. It was firm and non-tender and, the overlying skin was normal, giving the appearance of a thyroid swelling. The oral cavity and oropharynx were normal. On indirect laryngoscopy, the larynx was found to be normal with bi-

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lateral mobile vocal cords. Contrast-enhanced CT (CECT) neck revealed a soft tissue mass at a C5-C7 level that caused the destruction of the right thyroid lamina, affecting the right pyriform sinus with extension into paraglottic space (Figure 1). Multiple lytic areas were also noted in the clivus, cervical and thoracic vertebral bodies C2, C4, C5, D3, D5, medial end of the right clavicle and bilateral humeral heads. Fine Needle Aspiration Cytology (FNAC) of the mass was inconclusive. Direct laryngoscopic examination was performed under general anesthesia which did not detect any abnormality or suspicious area in the larynx. Rigid esophagoscopy revealed normal results. An open biopsy was then planned for the mass in the neck.

A horizontal incision was given in the skin over the bulge. The right lobe of the thyroid gland appeared enlarged with friable tissue (Figure 2). A biopsy was performed and the wound was closed once hemostasis was achieved. Biopsy revealed the presence of mature and immature plasma cells suggestive of plasma cell dyscrasia (Figure 3). Serum electrophoresis and bone marrow biopsy were repeated which revealed relapse of MM. The patient was put on chemotherapy and is doing well on follow up.

Discussion

The classical triad of MM comprises of marrow plasmacytosis (>10%), lytic bone lesions and a serum or urine M component.

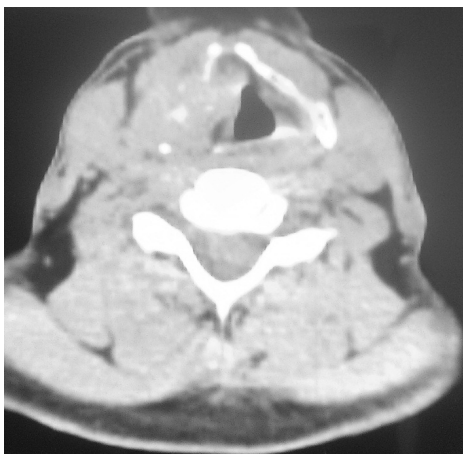


Figure 1: CECT neck showing the mass involving the thyroid gland and thyroid cartilage.

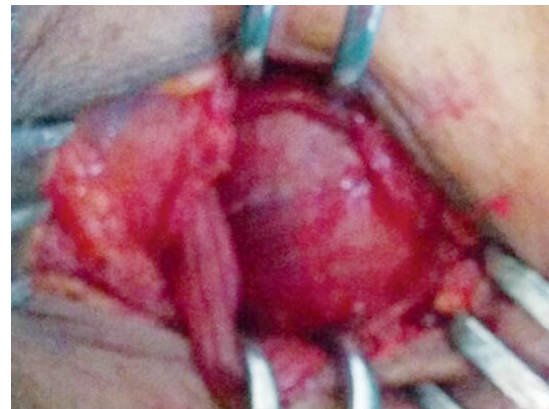


Figure 2: Intraoperative photograph of enlarged thyroid nodule.

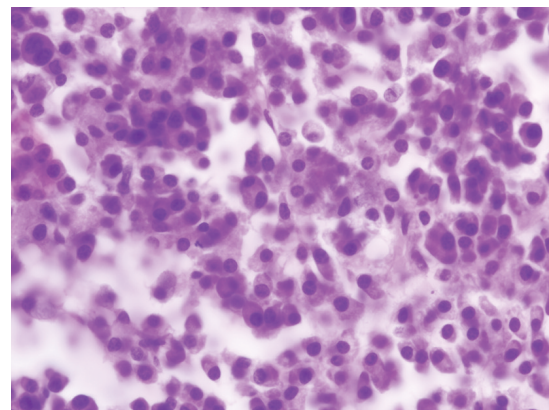


Figure 3: Histopathological photograph.

EMP refers to the proliferation of plasma cells in soft tissues. It could be seen either as primary EMP or in MM (as secondary EMP). In a majority of MM patients, EMP is clinically silent. In autopsy studies, the usual sites of involvement include liver, spleen and lymph nodes (2). Extramedullary involvement of MM may be witnessed at first diagnosis, during the course of the disease or as a relapse.

Thyroid gland involvement in MM is rare, accounting for only five cases reported so far (3-6). In four cases (3, 4, 6), the thyroid gland involvement was detected at the time of diagnosis whereas in one case (5), it was observed at relapse. In the present case, thyroid gland involvement was seen as a relapse of MM. The most common sites of presentation of laryngeal plasmacytomas in decreasing order of frequency include the epiglottis, vocal cords, ventricular bands,

the arytenoids and the subglottic space (7). Only 11 cases of thyroid cartilage involvement in MM have been reported so far in the literature (8). Two mechanisms have been postulated for cartilaginous involvement. First, cartilage may be invaded by an adjacent plasmacytoma. Second, cartilage, particularly in older patients, may undergo osseous metaplasia with the formation of a true central marrow space, and plasmacytomas may perhaps originate directly within this marrow (1). In the present case, thyroid cartilage involvement was believed to be secondary to spread from the thyroid gland. The most common presenting features of laryngeal plasmacytoma include dysphonia, dysphagia, dyspnea or a cough. The patient in the present case, exhibited hoarseness as the characterizing symptom and, thyroid swelling was detected during the subsequent examination.

Differential diagnosis included solitary EMP, inflammatory pseudotumor plasma cell variant, mucosa-associated lymphoid tissue lymphoma, and medullary carcinoma. The distinction was determined on the basis of histologic findings and immunohistochemical analysis.

Radiologically, CT and MRI are useful in the detection of extramedullary sites of the disease. Molecular imaging modalities like F18-FDG PET have emerged as the new imaging modality for assessing initial bone involvement and treatment response in MM. In addition, it is also reported that PET-FDG can help identify eventual extra-medullary sites of the disease, which is not possible using MRI. Therefore, it is more sensitive than MRI for the localization of extramedullary sites of the disease (9).

In the recent years, FNAC has emerged as the first line investigation tool in the evaluation of clinically palpable neck masses. Cytological evaluation of such lesions offers a rapid diagnosis on which prompt treatment decisions can be made. Since the clinical outcome in patients with systemic involvement is significantly worse as compared to that in patients with solitary plasmacytoma, FNAC may help in establishing an early diagnosis, thereby prompting timely institution of the appropriate treatment.

On fine needle aspirates, flow cytometry is often required to confirm the diagnosis

of plasma cell myeloma and rule out the possibilities of the extranodal marginal zone or lymphoplasmacytic lymphomas (10).

In the present case, FNAC was inconclusive and reported a colloid goiter. It could be due to the fact that FNAC may be from a non-representative area. In such cases, USG or CT guided FNAC is helpful.

It has been reported that IgD MM is more commonly associated with extraosseous involvement (11). However, this was not true for the present case. It has been observed that the incidence of EM disease has increased, probably due to the availability of more sensitive imaging techniques and the prolongation of patients' survival. In patients with secondary EMP, treatment is directed toward the underlying MM and thus therapy for EMP is palliative.

Conclusion

The present case highlights an unusual presentation of MM, as thyroid swelling. In a patient with MM, hoarseness could be the first presenting feature of laryngeal involvement. The diagnosis of laryngeal plasmacytoma requires a high index of suspicion because larynx may appear normal on examination. Further, PET CT can be used as the new imaging modality in MM.

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Authorship Contributions

Concept: Swati Tandon; Design: Vikram Wadhwa; Data Collection or Processing: Swati Tandon; Analysis or Interpretation: Ishwar Singh; Literature Search: Ravi Shankar, Vasun Batra; Writing: Swati Tandon.

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