

Devastating Complication of Novel Chemotherapy Agent

Yeni Kemoterapi Ajanının Yıkıcı Komplikasyonu

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ABSTRACT

Multiple myeloma is B-cell neoplastic disease occurring as a result of monoclonal expansion of plasma cells. This lymphoproliferative disease may involve bone marrow and extramedullary soft tissues. It has been treated successfully over the years with chemotherapy. Novel chemotherapeutic agents may result in devastating unknown complication. Herein, we would like to report a case of bilateral vocal cord palsy following Bortezomib in an elderly gentleman with multiple myeloma.

Keywords: Multiple myeloma; chemotherapy; bilateral vocal cord paralysis

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ÖZET

Multipl myeloma, plazma hücrelerinin monoklonal genişlemesinin bir sonucu olarak ortaya çıkan B hücreli neoplastik hastalıktır. Bu lenfoproliferatif hastalık kemik iliğini ve ekstramedüller yumuşak dokuları tutabilir. Yıllar içinde kemoterapi ile başarılı bir şekilde tedavi edilmiştir. Yeni kemoterapötik ajanlar, bilinmeyen yıkıcı komplikasyonlara neden olabilir. Burada multipl miyelomlu yaşlı bir beyefendide Bortezomib sonrası bilateral vokal kord felci gelişen bir olguyu sunmak istiyoruz.

Anahtar Sözcükler: Multipl myeloma; kemoterapi; iki taraflı ses teli felci

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INTRODUCTION

Bilateral vocal cord palsy (BVCP) occurs following myriad iatrogenic sources resulting from surgical intervention like thyroid, parathyroid surgery, cardiothoracic surgery as well as intubation. A much less common iatrogenic source of BVCP remains chemotherapy(1). Multiple myeloma (MM) is the second most common hematological neoplastic disorder which is characterized by proliferation and accumulation of B lymphocytes and plasma cells that produce monoclonal immunoglobulin. Bortezomib (BTZ), a proteasome inhibitor is an established therapy against MM. Apart from the known gastrointestinal symptoms, peripheral neuropathy, and thrombocytopenia complications, BTZ-induced bilateral vocal cord palsy is extremely rare and remains unknown. Herein, we report a rare case of BTZ-induced bilateral vocal cord palsy in an elderly gentleman with MM. To our knowledge, this is the first case reported in English literature on this distressing complication following BTZ.

CASE REPORT

A 76-year-old gentleman with underlying multiple myeloma diagnosed 2 years ago was referred for persistent hoarseness. Patient completed 6 cycles of chemotherapy; BTZ (Velcade) two-month prior to the referral. According to patient, hoarseness began after completion of third cycle of chemotherapy. However, there were no noisy breathing, no aspiration symptoms, no shortness of breath and patient was able to tolerate solid food as usual. In addition to that, there were no associated fever, trauma or neck swelling.

Upon examination, patient was sitting comfortably under room air. Voice assessment revealed GRBAS scale of 2 with predominant roughness and strain. There was no audible stridor. Neck examination along with complete ear, nose, throat examination was unremarkable. Flexible nasopharyngolaryngoscopy (FNPLS) revealed no mass with normal supraglottic structures, however bilateral vocal cord was in paramedian position with slit-like airway (Fig 1). Computed tomography of brain till thorax revealed no focal enhancing lesion in the vocal cord and no mediastinal or neck masses (Fig.2). Fiberoptic endoscopic evaluation of swallowing (FEES) was normal. Subsequently, patient was counselled for laser cordectomy which he refused. Patient is on close follow-up with no worsening symptoms till date.



Figure 1: Bilateral vocal cord in paramedian position



Figure 2: No subglottic mass seen with evidence of vocal cord-palsy

DISCUSSION

Vocal cord palsy can be either unilateral or bilateral. Most common presentation following BVCP includes dysphonia, stridor, dysphagia and aspiration symptoms² depending on the severity and position of the vocal cord. Among others, malignancy, iatrogenic, idiopathic, and neck trauma remains the four common cited etiologies(2).

Neurotoxicity from chemotherapeutic agents albeit not uncommon has been disregarded in keeping with primary aim to eradicate related disease. Having said that, vinca alkaloids and taxane group chemotherapeutic drugs has been vastly linked to vocal cord palsy. Other less known neurotoxic chemotherapeutic drugs include thalidomide, eribulin, nelarabine, cytarabine, procarbazine, and teoposdie. Patients are informed on this possibility prior to commencement of any of these chemotherapeutic drugs. In this case, our patient presented with hoarseness after completion of third cycle of chemotherapy. Till date there are no reported case of BVCP post BTZ drug and its possible route of neurotoxicity has yet to be described. Paclitaxel-induced BCVP has been attributed by dorsal root ganglia alteration, oxidative stress involvement and mitochondrial dysfunction as peripheral neuropathy(3).

Clinical and radiological examination is vital prior to diagnosis as to exclude other pathologies including upper airway infection, such as laryngotracheobronchitis, as well as any mediastinal and neck mass. Visualization of the upper airway via FNPLS allows assessment in the clinic setting, to confirms the diagnosis as well as to rule out treatable causes of hoarseness like vocal cord nodule.

As for management, presentation of upper airway distress requires emergent treatment including intubation or tracheostomy. It has been reported that, symptoms are often reversible following cessation of chemotherapy drug(4). However, it is important to be borne in mind that, patient can undergo a phenomenon called coasting whereby symptoms worsen initially before they improve. Ultimately, magnitude of intervention depends on the level of airway obstruction and functional deficits result from vocal cord palsy(5). In our case, patient was counseled for laser cordectomy, however patient was not keen to undergo surgical intervention and opted for conservative management. Hence, patient was referred to the speech therapist and was closely monitored.

CONCLUSION

Commencement of novel chemotherapeutic agent should be undertaken with great caution as its side-effects are not known. Clinicians, should be aware of BVCP-induced by BTZ it is life-threatening.

Conflict of interest

No conflict of interest was declared by the authors.

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