Sir,

We present a case of a 52-year-old man who presented with bilateral lung cavities, bone lesions and demyelinating polyneuropathy. This clinical picture raised a suspicion of a metastatic malignancy however on detailed workup he was diagnosed to have osteosclerotic myeloma (OM) with POEMS syndrome, a rare multisystem disorder comprising of conglomerate of polyneuropathy, organomegaly, endocrinopathy, monoclonal gammopathy and skin changes.

A 52-year-old man non-smoker presented with 1 month history of fever, night sweats, cough with copious purulent sputum, dyspnea and constitutional symptoms. He also gave history of tingling numbness of both lower limbs for last 6 months and subsequently progressively increasing weakness in both lower extremities. He was a known diabetic since last 6 months. His vital parameters were stable. He had clubbng. Skin examination showed ichthyosis and hyper pigmentation especially at upper and lower extremities and abdomen. Chest examination revealed bilateral crakles. Neurological examination showed reduced power (3/5) in lower limbs, impaired touch and pain sensation and decreased deep tendon reflexes. Laboratory studies showed anemia and elevated total counts with normal liver and renal function tests. ELISA test for human immunodeficiency virus (HIV) was negative. Sputum culture isolated nocardia while sputum smears and culture for acid fast bacilli were negative. Chest radiograph [Figure 1] showed bilateral lower zone cavities. Contrast-enhanced chest CT showed thick enhancing cavities in bilateral lower lobes with sclerotic bone lesions [Figure 2]. Electromyography (EMG) showed prolonged distal latency with low nerve conduction velocities and absent synaptic action potentials in bilateral tibial, sural and common peroneal nerves which suggested a demyelinating axonal peripheral neuropathy affecting the lower limbs.

Complete radiological survey revealed sclerotic lesions throughout the skeleton including the skull [Figure 3]. Because of this multisystemic involvement, we kept a differential diagnosis of metastatic malignancy versus POEMS syndrome with OM and accordingly did the further workup. A CT-guided biopsy of the lung lesion showed no evidence of malignancy. Bone marrow biopsy was normal. Serum and urine protein electrophoresis did not reveal a monoclonal protein. Hence, we decided to go ahead with serum and urine immunofixation. Simultaneously, the patient was started on therapy with antibiotic cotrimoxazole for nocardiosis. However, his clinical condition deteriorated and he expired. Histopathology of the chest lesion during a partial chest post mortem showed infectious process with special stains positive for nocardia. Urine immunofixation report was also available subsequently which showed monoclonal gammopathy of IgA type with lambda light chains. Our patient now satisfied all the criteria required for the diagnosis of POEMS syndrome. Hence, a final diagnosis of POEMS syndrome with OM with pulmonary nocardia infection was made.

POEMS syndrome is a rare medical syndrome with multisystem involvement seen in setting of plasma cell dyscrasia. It usually manifests in the 5th to 6th decade of life. It affects twice as many men as women. It is

Figure 1: Chest radiograph showing bilateral lower zone cavitory lesions

Figure 2: Contrast enhanced computerized tomography of chest showing thick enhancing cavitary lesions in bilateral lower lobes (L > R) with sclerotic bone lesions
postulated that proinflammatory cytokines especially vascular endothelial growth factor (VEGF) is responsible for the pathogenesis. The diagnostic criteria are proposed by Dispenzieri et al.[1] Mandatory major criteria include polyneuropathy (typically demyelinating), monoclonal plasma cell proliferative disorders (almost always λ), other major criteria include Castleman's disease, sclerotic bone lesions and elevated VEGF levels. Minor criteria include organomegaly, extra vascular volume overload, endocrinopathy, skin changes, papilloedema and thrombocytosis or polycythemia. Diagnosis is confirmed when both of mandatory major, one of other three major and one of six minor criteria are present.

Our patient fulfilled both the mandatory major criteria in form of demyelinating polyneuropathy, one other major criterion in the form of sclerotic bone lesions and minor criterion in the form of diabetes mellitus and skin changes. He thus satisfied all criteria required for diagnosis of POEMS syndrome. Finger clubbing was an associated feature. OM is a plasma cell dyscrasia characterized by sclerotic bone lesions and demyelinating polyneuropathy.[2] POEMS syndrome is most commonly associated with OM. In patients with OM, a monoclonal protein is present in serum or urine of 75% of patients. The identification of such a protein is usually a key to the diagnosis. The proteinuria can sometimes be obscured by other proteins and immunofixation may be necessary for detection[3] as had happened in our case. M protein is usually IgG or IgA with lambda light chains and a bone marrow biopsy shows less than 5% increase in plasma cells or may be normal.[3] Radiologically OM is always associated with sclerotic lesions though lytic lesions may be present.[2]

Pulmonary manifestations of POEMS syndrome are common and include pulmonary hypertension, restrictive lung disease, respiratory muscle weakness, pleural effusions and diaphragmatic elevation as shown in a retrospective review conducted over 137 patients by Allam et al.[4] Our patient presented with the pulmonary manifestation of bilateral lung cavities, which were however due to Nocardia infection. Nocardiosis is an important opportunistic disease that can manifest as localized or disseminated infection. It tends to affect patients with underlying immunosuppression.[5] Patients with hematological disorders are a high-risk category for nocardiosis because of intrinsic immunodeficiency.[5] In our patient POEMS syndrome produced a disturbance in the immune system, hence pulmonary nocardiosis seems secondary to this. Pulmonary system is the most commonly involved organ system, hence pulmonary nocardiosis is acquired by inhalation of airborne spores. It usually presents as nodular or cavitated lesions.[5] Our patient also presented with multiple lung abscesses. Diagnosis is by demonstration of organism in smear and isolation by culture with modified Kinyon staining.[4] Sulphonamide group of antibiotics with or without trimethoprim have been regarded as the drug of choice. Prognosis in a patient with POEMS syndrome depends on the underlying plasma cell disorder. Prognosis is poor if effusions, ascites, edema or multiple lytic lesions are present. Cardio respiratory failure, renal failure, and infection are the common cause of death.[6] Our patient had developed a complication in form of pulmonary infection with nocardia manifesting as lung abscesses thereby accounting for his poor prognosis and mortality.

POEMS syndrome is a distinct entity with diverse clinical manifestations and multisystem involvement. Hence, we emphasize that patients with multisystem involvement and peripheral neuropathy should be evaluated with serum and urine protein electrophoresis and if necessary immunefixation as the importance of recognizing this rare disease lies in its potential for treatment. We also stress that patient with POEMS syndrome may suffer from pulmonary nocardiosis due to underlying immunosuppression and whose outcome may be fatal. This case is thus unique by its rare pulmonary manifestation and close resemblance to malignancy. It serves to remind the clinician to consider this syndrome whenever confronted with such a case presenting with multisystem involvement. Early diagnosis and therapy are crucial.
Letters to Editor

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Diagnostic utility of conventional transbronchial needle aspiration without rapid on-site evaluation in patients with lung cancer

Sir,

We thank Drs Girish Sindhwani (GS) and Rakhee Khanduri (RK) for interest in our work and their comments regarding our study of transbronchial needle aspiration (TBNA) in patients with lung cancer.

We agree that availability of rapid on-site evaluation (ROSE) improves the yield of TBNA and in ideal situations; it is preferable to have an on-site cytopathologist during performance of TBNA. However, in high volume multispecialty tertiary care centers, cytopathologists are involved in providing on site cytology services in various disciplines like image (CT/USG)-guided fine-needle aspiration cytology (FNAC) procedures, endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA), endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA), routine outpatient FNAC procedures etc., We would like to emphasize that ROSE was available at our center but during the study period, we were also involved in setting up an EBUS-TBNA programme and as per the availability, ROSE facilities were maximally being utilized for EBUS-TBNA and the outcomes of the same were very encouraging and these findings were published recently.

Still, conventional TBNA was routinely being performed at our center irrespective of the availability/non-availability of ROSE and that is one of the important points that we would like to highlight. As remarked by Drs GS/RK, more studies from India evaluating the utility of ROSE with TBNA/EBUS-TBNA are required.

As Drs GS/RK correctly state, TBNA is a grossly underutilized flexible bronchoscopic modality. After the increasing acceptance of EBUS-TBNA, the very performance of conventional TBNA has been given up at many centers. Training of pulmonary fellows in performance of TBNA consequently has taken a setback. Due to operational cost concerns, EBUS-TBNA is available at only limited centers. Lack of EBUS facility and non-performance of TBNA by most pulmonologists leads to missed opportunity of obtaining a diagnosis during the flexible bronchoscopy procedure. Conventional TBNA is a safe, efficacious and cost-effective modality which adds to the diagnostic yield of other concurrently performed bronchoscopic procedures like transbronchial lung biopsy (TBLB).

We would like to emphasize that TBNA as a procedure should be utilized more often by pulmonologists. The previously published work by Dr Sindhwani and colleagues is appreciable in this regard.

We believe that non availability of ROSE is not the most important reason which is responsible for TBNA underutilization as highlighted in a large previously published Indian experience on TBNA without ROSE. Rather, it is related to operator's inexperience and concerns regarding its safety and utility. Also, it would be incorrect to state that there is ample availability of trained pathology personnel to provide ROSE facilities at all the tertiary care centers in most parts of India.

Therefore, the need of the hour is to train all pulmonologists involved in performing flexible bronchoscopy in the anatomical aspects and art of conventional TBNA. Lack of facilities for ROSE should not be a deterring factor limiting the performance of Conventional TBNA.