After initial problems with compliance, full standard quadruple therapy was effectively started in April 2008. Maintenance treatment was commenced in June 2008. The chest X-ray (CXR) on first presentation did show a narrowed left main bronchus in the absence of any clinical signs or symptoms. Furthermore, she had a normal exercise tolerance.

The only relevant past medical history was of childhood asthma, for which she had no hospitalizations and did not use any regular inhaled therapy.

She presented in August 2008 to the accident and emergency department with a one-week history of worsening shortness of breath. The repeat CXR showed narrowing of the left main bronchus. Inhaled steroids and bronchodilators were started for a possible asthma exacerbation and she was discharged home. Her symptoms deteriorated and when seen in the TB clinic four weeks later, her exercise tolerance was limited to about 100 yards.

On examination, a monophonic wheeze was audible on the left side of the chest. A repeat CXR showed marked narrowing of the left main bronchus, confirmed on CT scan which showed almost complete occlusion of the left main stem bronchus. Spirometry showed FEV₁ 1.09 L/min (36.3% of predicted), FVC 1.44 (41.7% of predicted) [Table 1a]. The flow-volume loop had a characteristic shape of large airway obstruction [Figure 1].

She was commenced on oral Prednisolone 30 mg once daily. There was no concern with compliance at this time.
A bronchoscopy also showed complete occlusion of left main bronchus with white necrotic material [Figure 2]. Histology revealed necrotic material with changes consistent with treated TB. Bronchoalveolar lavage was positive for AFB but microbiological culture did not grow any mycobacteria.

Her treatment was continued with both anti-tuberculous therapy and steroids. Two weeks later her symptoms had markedly improved. Three days prior to the clinic visit she said she had coughed up a large lump of white material and her breathing had returned to near normal since. Her wheeze had completely disappeared. Repeat spirometry showed improvement with an FEV\textsubscript{1} - 1.85 (61.5%), FVC – 2.81(81.6%) [Table 1b] with normalization of the flow volume loop [Figure 3a]. Bronchoscopy was repeated and this showed a patent left main bronchus with some necrotic material on the lateral wall [Figure 3b].

She continued with anti-tuberculous treatment for a full one year and steroids were slowly tapered off. Her CXR showed marked improvement in the narrowing of the left main bronchus towards the end of treatment. Spirometry also returned to normal as did her symptoms. One year after stopping treatment she remains healthy.

**DISCUSSION**

Endobronchial tuberculosis is less common since the advent of effective anti-tuberculous chemotherapy, but mediastinal lymphadenopathy due to mycobacterial infection is still common in developing countries.\(^1\) Paradoxical enlargement of lymph nodes has been well-documented.\(^2\) Paradoxical reactions on the whole are more common with HIV co-infection (28%) than without (10%).\(^3\) Lymph node enlargement is the most common presentation and bronchial obstruction due to mediastinal lymphadenopathy is more common in the pediatric age group.\(^4\) In adults, bronchial obstruction due to reactive enlargement late into treatment has not been described before.

**Table 1a: Spirometry at presentation**

| Spirometry       | Pred. val | Meas  | % pred. val |
|------------------|-----------|-------|-------------|
| FEV\textsubscript{1} (L) | 3.01      | 1.09  | 36.3        |
| FVC (L)          | 3.45      | 1.44  | 41.7        |
| FEV\textsubscript{1}/FVC (%) | 84.1      | 76.0  | 90.3        |
| PEF (L/S)        | 7         | 3     | 36.4        |
| MEF (L/S)        | 4.1       | 1.0   | 24.0        |

**Table 1b: Spirometry after treatment**

| Spirometry       | Pred. val | Meas  | % pred. val |
|------------------|-----------|-------|-------------|
| FEV\textsubscript{1} (L) | 3.01      | 1.85  | 61.5        |
| FVC (L)          | 3.44      | 2.81  | 81.6        |
| FEV\textsubscript{1}/FVC (%) | 84.1      | 65.8  | 78.2        |
| PEF (L/S)        | 7         | 4     | 56.8        |
| MEF (L/S)        | 4.1       | 1.8   | 44.8        |
Patients with tuberculous mediastinal lymphadenopathy presenting with recurrent laryngeal nerve palsy,\cite{1} pulmonary artery occlusion\cite{5} and superior vena caval obstruction\cite{6} have been described. These presentations may be due to either external compression or erosion into the surrounding structure. In this particular case, the bronchoscopy showed caseating material eroding into the left main bronchus. Nakvi \textit{et al.}\cite{4}, described this in children, in whom the obstruction was relieved by either aspiration or surgical excision.

Response to steroids has not been consistent in many series described but generally paradoxical reactions, unlike endobronchial TB, are thought to be more steroids responsive,\cite{7,8} Our patient responded well to steroids. Even after coughing up necrotic debris and relieving endobronchial obstruction, she still had significant airway obstruction on spirometry and radiology. This further improved with steroids.

Late paradoxical reactions should be considered in any patient on anti-tuberculous chemotherapy presenting with stridor.

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**Announcement**

**Respiratory Update Goa 2012**

Baroda Chest Group under the aegis of the Western chapter Indian Chest Society is organizing a respiratory update at the Radisson Blu Hotel, Cavelossim, Goa from 27-29 July 2012. The faculty includes Dr. Ron duBois, Dr. Luke Howard, Prof. Henry Tezalaar, Dr. A.A. Mahashur, Dr. Zarir Udwallia, Prof. Dheeraj Gupta, Prof D.J. Christopher, Prof. G.C. Khilnani, Dr. Raja Bose, Dr. Ravindra Mehta and others.

Please log on to www.barodachestgroup.org for details regarding registration or email to the undersigned. Registration form can be downloaded and sent to:

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