Case Report

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Two Case Reports on Lophomonas Blatarrum Pulmonary Infection: First Reported Cases

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ABSTRACT

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Case Report

Two patients whom we discuss below were 47 and 70y had shared common symptoms such as dyspnea, intermittent but profuse productive cough and newly onset wheeze whereas both were long term diabetics.

Patient A

70y old patient known diabetic for more than 30 years has had chest symptoms such as intermittent cough, on and off hemoptysis for nearly 5years. His diabetic control was not very satisfactory in total. Those chest symptoms lead him to see clinicians on many occasions and extensively tested to exclude pulmonary tuberculosis with negative results. He experienced a wheeze since last few months of this presentation and early morning frank blood in the sputum was a stressful symptom. During this last visit to the chest physician, he had raised white cell counts with neutrophil predominance with significant numbers of eosinophils. ESR was slightly raised. HRCT showed randomly distributed nodules, septal thickening, and ground glass appearance. All the other reports were unremarkable (Acid fast bacilli, fungal smear, PCP, Liver profile, clotting profile, renal function tests etc.) Bronchoscopy confirmed the absence of endobronchial lesions and showed clear airways with slight bleeding in trachea and the bronchial trees).

Cytology report of the Broncho alveolar lavage (BAL) was not detected any abnormal cells or organisms. Wet mount of fresh BAL sample checked at department of microbiology revealed a rapidly moving ovoid shaped multi flagellated several protozoans who had a tuft of flagella bound at one end. They were unable to move from place to place due to the type of arrangement of the flagella, but wiggly movements were very apparent and fast. In the same specimen at room temperature, we were able to observe their movements for about 10 to 15 hours. (We do have the video of the original samples and some images from video are stated below). The morphology of the protozoa seen, and movements were compared with many parasitology texts books, case reports, and reviews and were able to identify them as Lophomonas species most likely blattarum.

Patient B

With the previous experience our department start looking at wet mounts of BAL even though it is not in the protocol. After 6 months of the 1st case, we were able to detect the 2nd patient. 37 y patient diagnosed diabetic since 5years with not very satisfactory control. This patient was diagnosed to have pulmonary tuberculosis about 13 years ago and completely recovered following a course of anti-tuberculosis treatment. He was free of respiratory symptoms for several years where he started getting recurrent lower respiratory tract symptoms like cough and bronchitis with on and off fevers. This episode he had about one month duration of chest symptoms with a newly onset wheeze and a very disturbing intermittent cough. Not experienced hemoptysis.

In the past he has seen several clinicians and was investigated and managed but with transient relief. At this presentation laboratory tests denote high white cell count with neutrophil predominance.

Eosinophil and monocyte count also were raised significantly. Chest X rays were unremarkable and ESR and CRP were slightly raised. HRCT report showed bilateral apical pleural thickening with associated interstitial shadows and upper lobe fibrosis which were suggestive of previous pulmonary tuberculosis. Scattered bi-basal ground glass opacities and early central bronchiectasis were also noted. The BAL sample taken revealed similar moving multi flagellated protozoan parasites about 4 or 5 per high power field of the light microscope. Gram stain also showed those parasites in light pink color but shrunk from the size than when they were alive.

Treatment

Literature survey showed evidence of clinical success following the intravenous administration of metronidazole. We adhered those protocols and treat both patients for 5 days of intravenous Metronidazole 500mg 8hrly and followed by same dose orally for another 5 days. Both showed symptomatic relief as early as 2-4 days of commencement of treatment but as per the evidence 10-day course completed. Some case reports were mentioned that they continue treatment for up to 30 days.

Discussion

Protozoal infections in the lower respiratory tract are often incidental findings and rare to encounter. Protozoal infections are mostly common in people with compromised immune systems. In the recent past the number of reported cases caused by L.blattarum has increased, this trend might be due to either the raise in the number of immunocompromised patients or unhygienic living conditions where human animal interphase is poorly managed. However clear data on global epidemiology of L.blattarum infections is scarce, partly because majority of the cases may go unreported or undiagnosed since direct microscopic examination is the most reliable diagnostic method currently available.

It is difficult to differentiate the organism from ciliated bronchial cells in stained smears and routinely used microbial culture media do not support the growth of these flagellates. Hence diagnostic tools with enhanced sensitivity and specificity should be developed in the future for the identification purposes. Finally clinicians should consider L.blattarum infections as a differential diagnosis in patients with chronic respiratory infections, and should request direct smears from fresh samples within a short period of collection at least within an hour.

Since this organism was started to identify from various parts of the world, there were conflicts of information forwarded that the identified objects are ciliated bronchial epithelial cells. A latest case report published on world journal of case reports strongly discussed that these moving objects are ciliated bronchial cells but unfortunately the patient was treated with Metronidazole which is the recognized treatment for this parasite [1].

Conflict of Interest

There is not any financial interest or any conflict of interest.

References

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