

## Case Report

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# Oral Manifestations of A Patient of Systemic Lupus Erythomatosus: A Case Report

Sharmine Zaman Urmee<sup>1</sup>, Sheuly Ferdoushi<sup>2</sup>, Md. Saiful Islam<sup>3</sup>, Debatosh Paul<sup>4</sup>, A. Allam Choudhury<sup>5</sup>, Tuhin Sultana<sup>6</sup>, Md. Quddusur Rahman<sup>7</sup>, AN Nashimuddin Ahmed<sup>8</sup>

### Abstract

*Patients with systemic lupus erythomatosus (SLE) have increased susceptibility to infection by Pneumocystis jirovecii but this condition has rarely been reported in Bangladesh. Pneumonias due to Pneumocystis jirovecii commonly occur in immunocompromised hosts. Although it is a treatable infection, it is associated with high motility. Patient with systemic lupus erythomatosus increased susceptibility to infection by Pneumocystis jirovecii. Here we describe a patient with SLE who developed Pneumocystis pneumonia (PCP). A 37-years old female is a known case of SLE for 12 years admitted in BSMMU with the complaints of fever & cough for 3 months and breathlessness for 1 month. The patient is treated with corticosteroids and cyclosporine within 2 months before presentation. Diagnosis is established based on the findings of induced sputum by Giemsa staining. This case demonstrates that PCP should be included in the differential diagnosis of patients of SLE presenting with pneumonic process.*

**Key word :** *Pneumocystis jirovecii, Pneumocystis pneumonia(PCP), Systemic lupus erythomatosus (SLE)*

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1. Resident, Laboratory Medicine, BSMMU
  2. Assistant professor. Department of clinical Pathology. BSMMU, Dhaka
  3. Assistant professor, Department of clinical Pathology. BSMMU, Dhaka
  4. Associate professor, Department of clinical Pathology. BSMMU, Dhaka
  5. Associate professor, Department of Otolaryngology- Head & Neck
  6. Associate professor, Department of Clinical Pathology. BSMMU, Dhaka
  7. Professor, Department of Clinical Pathology. BSMMU, Dhaka
  8. Professor and Chairman, Department of Clinical Pathology., BSMMU, Dhaka

**Address of Correspondence:** Dr. Sharmine Zaman Urmee. DCP, (MD Phase-A) Resident, Laboratory Medicine, BSMMU, Dhaka

### Introduction

The occurrence of pneumocystis pneumonia in patient with collagen disease on immunosuppressive therapy is not uncommon. But only a few case reports are available about this infection in active untreated collagen disorders. The diagnosis of PCP is done either by induced or spontaneous sputum analysis, or by carrying out a bronchoalveolar lavage and transbronchial lung biopsy. Recently we encountered a case of PCP in SLE patient where definitive diagnosis based on the demonstration of Pneumocystis jirovecii obtained from induced sputum.

### Case Report

A 37 years old female, non diabetic mother of one child hailing from Fenny is a known case of SLE for 12 years admitted in BSMMU with the complaints of fever & cough for 3 months and breathlessness for 1 month. On examination she is mild anaemic, oral ulcer present in her tongue & hard palate. Her BP 80/60mmHg, RR 42 breathes/min, chest expansibility reduced to 3cm, coarse crepitation present throughout the chest which alter with coughing.

Regarding drug history she was on long term immunosuppressive therapy, she was treated with methotrixate 20mg for 10years (2003-2013), azathioprine 75mg for 2 years (Oct, 2013-Jan, 2015), cyclosporin 200mg for 3 months (Jan, 2015-March, 2015) & with prednisolone 1mg/kg body weight to gradual tapering dose (Oct, 2013-Nov, 2014) & currently she is being treated with prednisolone since January 2015.

She was evaluated for the cause of breathlessness. Urine & blood culture was sterile. Sputum examination did not show acid fast bacilli. Chest X-ray revealed bilateral diffuse infiltrate, more in perihilar regions. CT scan of chest shows bilateral diffuse infiltrate, more in perihilar regions, nodular densities. Echocardiography shows mild pericardial effusion, EF 67%, pulmonary arterial pressure 45mmHg. ECG shows normal findings. Laboratory report reveals Hb-11.2g/dl, WBC-9500/cumm with 93% neutrophil, 06% lymphocytes, and 1% monocytes, ESR-120mm in 1<sup>st</sup> hour and platelet count 3,00,000, Alanine aminotransferase 15U/L, S. creatinine 1.06 mg/dl. First sputum for pneumocystis jerevecii shows negative but induced sputum by 3%NaCl shows pneumocystis jerevecii by Giemsa stain done at Clinical Pathology Department of BSMMU (Fig A, B).

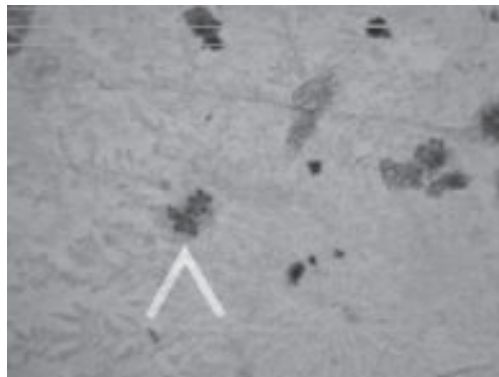


Fig.-1 (A)

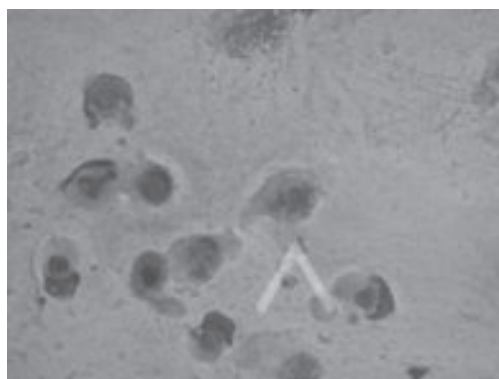


Fig.-1 (B)

**Fig.-1(A & B):** Sputum smear stained with Giemsa stain shows *Pneumocystis jerevecii* (oil immersion).

### Discussion

Pulmonary manifestations of connective tissue diseases are a diagnostic challenge to the clinicians. It could be disease related due to immune mediate insult, vasculitides, pulmonary hemorrhage, and pulmonary hypertension or caused by infection. Opportunistic infections with organism like *pneumocystis jerevecii* frequently complicate immunosuppressive status.<sup>1</sup>

The mechanism of immune suppression in patients with SLE who have PCP is usually multi-factorial,<sup>2</sup> and may be related to underlying diseases, cytotoxic therapies, or

malnutrition. However, the development of PCP in most patients with SLE is associated with daily administration of corticosteroids and with the development of lymphopenia.<sup>3</sup> Corticosteroids cause immunosuppression mainly by sequestration of CD4+T-lymphocytes in the reticuloendothelial system and by inhibiting the transcription of cytokines.<sup>4-5</sup> Corticosteroid therapy is a rare but possible independent predisposition to *Pneumocystis jirovecii* infection.<sup>6-7</sup> Prolonged corticosteroid therapy is characterised by a significant immunological dysfunction.

In this case patient was treated by cyclosporin with prednisolone and she was also lymphopenic, may decrease CD4 count.<sup>8</sup> This impairs cellular immunity and predispose to opportunistic infection like *pneumocystis jirovecii*. The diagnosis of PCP was made by sputum analysis in our case. The sensitivity of the sputum analysis is 50-60%, though less sensitive,<sup>9</sup> sputum examination is highly specific for organism.<sup>10</sup>

### Conclusion

Pneumocystis pneumonia is a fatal disease. Pneumocystis pneumonia occurs mostly immunocompromised patient. The patient response well to the anti pneumocystis treatment. The clinicians should be aware that, at some point of time immunosuppressed patients can present with concurrent infections with *Pneumocystis jirovecii*.

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