

# Pneumonia With Systemic Lupus Erythematosus

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## Özet

Acil servise sistemik lupus eritematozus (SLE) tanısı olan ancak 2 sene tedavi almayan 19 yaşındaki kadın hasta ateş birkaç gündür artan nefes darlığı ve ateş şikayeti ile başvurdu. Fizik muayenesinde inspiratuar ralleri, ekspiryum uzaması ve wheezingleri olan hastanın çekilen kontrastsız bilgisayarlı tomografisinde her iki akciğerde yaygın dağılım gösteren parankimal infiltratif dansiteler görüldü. Göğüs hastalıkları tarafından solunum yetmezliği ve akut respiratuar distress sendromu (ARDS) için yakın takip ve tedavi önerilen hastanın kliniğinde kötüleşme olması üzerine yoğun bakıma sevk edildi. Enfeksiyon, SLE hastalarında morbidite ve mortalitenin önemli nedenlerinden biridir. SLE'nin solunum sistemi tutulumlarından biri olan lupus pnömonisi özellikle genç kadınlarda görülür. Yüksek ateş, öksürük, hipoksi ve takipne en sık görülen semptomlardır ve yüksek mortalite ile ilişkilidir. Akut lupus pnömonisinde, tedaviye sistemik kortikosteroid eklenmelidir. Bu hastalarda 72 saat içinde dispne semptomlarında iyileşme olmazsa, metilprednizolon tedavisi önerilir. Acil serviste lupus pnömonisi tanısı alan ve yoğun bakıma ARDS ön tanısı ile sevk edilen 19 yaşındaki kadın hastayı sunuyoruz.

**Anahtar kelimeler:** SLE, lupus pnömonisi, dispne

## Abstract

A 19-year-old female patient, who was diagnosed with SLE but has not received treatment for 2 years, came to the emergency service due to fever and shortness of breath that has been frequent for several days. In her physical examination, inspiratory rales, expiratory elongation and wheezing were found, and non-contrasted computed tomography of the patient showed parenchymal infiltrative densities that were widely distributed in both lungs. The patient, who was recommended close follow-up for respiratory failure and acute respiratory distress syndrome (ARDS) by the department of pulmonology, was referred to the intensive care unit because of worsening of her condition. Infection is one of the most important causes of morbidity and mortality in patients with systemic lupus erythematosus (SLE). Lupus pneumonia, one of the respiratory system involvements of SLE, is especially seen in young women. High fever, cough, hypoxia and tachypnea are the most common symptoms and are associated with high mortality. In acute lupus pneumonia, systemic corticosteroid should be added to the treatment. If these patients do not improve dyspnea within 72 hours, methylprednisolone treatment is recommended. We present a 19-year-old female patient diagnosed with lupus pneumonia in the emergency service and referred to intensive care unit with the diagnosis of ARDS.

**Anahtar kelimeler:** SLE, lupus pneumonia, dyspnea

## Introduction

Systemic lupus erythematosus (SLE) is an autoimmune disease that is 9 times more common in women. SLE is mostly seen in the hematological system, pericardium, skin, kidney and respiratory systems. The appearance of the respiratory system in lupus disease may appear as infection, pleural effusion, alveolar hemorrhage and pulmonary embolism<sup>1</sup>. In this case, we present a 19-year-old lupus pneumonia case who came to the emergency service.

## Case

19-year-old female patient in the green area of the emergency service; She applied with the complaint of shortness of breath and fever, which lasted for about a week and became

frequent especially in the last few days. It was learned that the patient was diagnosed with systemic lupus erythematosus (SLE) and has not been under any doctor's control for 2 years. She did not have any disease other than SLE in his background. The patient regularly received allopurinol 300 mg 1\*1, perindopril 5mg 1\*1, hydroxychloroquine sulfate 200 mg 1\*1, carvedilol 6.25 mg 1\*1, furosemide 40mg 1\*1, acetylsalicylic acid 100 mg 1\*1, prednisolone 16mg 1\*1 oral. Also; It was learned that the patient had a flu infection 1 week ago and oseltamivir phosphate 75 mg 2\*1 was started in an outer center primary health center. In her physical examination, the degree of Glasgow Coma Scale (GCS) was 15 oriented cooperative, and when the lung examination was examined, there were bilateral inspiratory rales, expiratory extension and wheezing, other system examinations were natural. TA: 139/81 mm/hg, SpO<sub>2</sub>:78%, Pulse:143/

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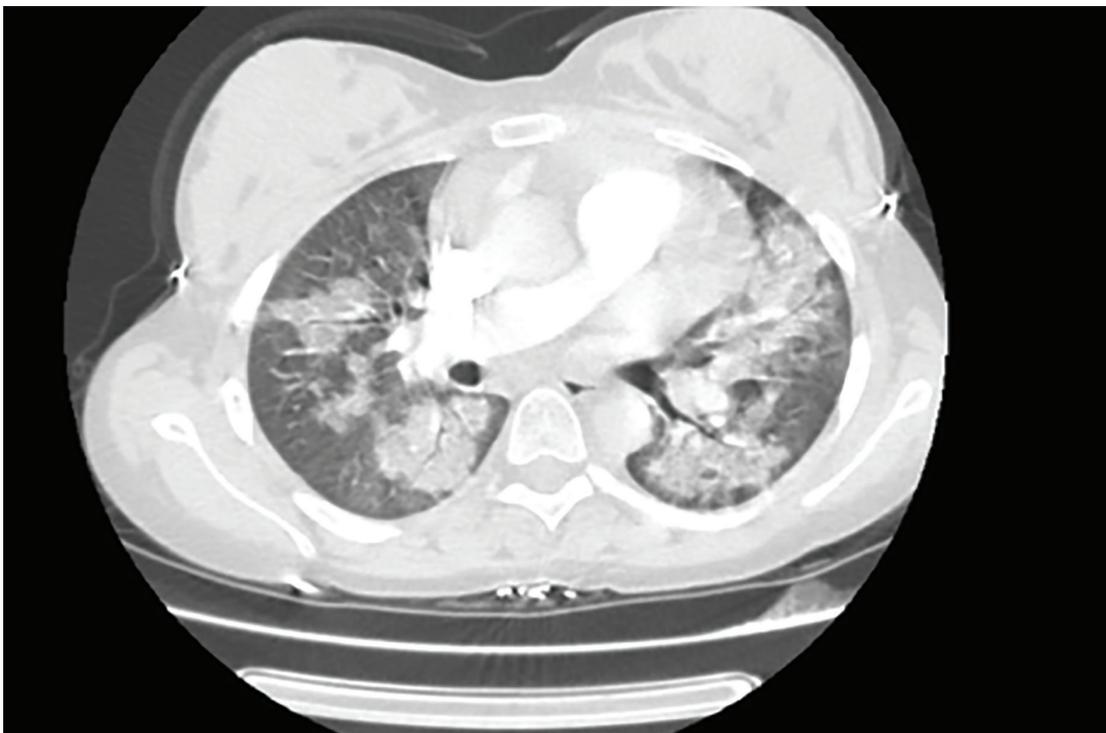
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minutes, the fever was 38.3 °C. ECG was sinus tachycardia. Results of the patient in laboratory examination were determined as WBC: 17.26 10<sup>3</sup> mm<sup>3</sup>, Hgb: 7.5 g /dl, Plt: 419.000/mm<sup>3</sup>, AST: 31 U/L, ALT: 12 U/L, Creatine: 0.73 mg/dl, BUN: 32.1 mg/dl Glucose: 118 mg/dl CRP: 10.2 mg/dl and procalcitonin 1.99 ng /ml. The results in blood gas analysis were pH: 7.45, PCO<sub>2</sub>: 27mmHg, PO<sub>2</sub>: 47.5mmHg, sO<sub>2</sub>: 85% HCO<sub>3</sub>:18.6 mmol/l, SBE: -4.7mmol/l and lactate: 1.3mmol /l. On the non-contrasted computed tomography (CT) of the patient, parenchymal infiltrative densities with locally occurring air bronchograms were observed in both lungs (Figure-1). The patient was consulted for 4 l/min oxygen. Oseltamivir phosphate 75 mg 2\*1, piperacillin – tazobactam 4,5 g 3\*1, clarithromycin 500 mg 2\*1, prednisolone 40 mg 1\*1, intravenous salbutamol 2.5 mg 4\*1 and budesonide 0.25 mg/ml 2\*1 drugs were recommended to the patient consulted to the chest diseases clinic. Inhaler treatment was also started. Close follow-up and intensive care follow-up were recommended for the patient's respiratory failure and acute respiratory distress syndrome (ARDS). Despite the treatment recommended to the patient, his clinical condition deteriorated; the patient was referred to intensive care unit because of the need for a noninvasive ventilator.

## Discussion

We encounter acute respiratory injuries due to lupus as pleural effusion, lupus pneumonia, pulmonary hemorrhage and pulmonary embolism<sup>2</sup>. Due to lupus findings of respiratory system, hospital stay and mortality rates increase<sup>1</sup>. The most common finding in respiratory system findings is pleural effusion. The frequency of pneumonia is between 15-28%<sup>3</sup>. There are publications reporting that hospitalization rates are higher among young women due to pneumonia in patients with SLE in the literature<sup>3</sup>. In these patients, pneumonia-related mortality is 10-12%<sup>4</sup>. Acute fever, cough, tachypnea and hypoxia are seen in pneumonia associated with SLE. The radiological sign of lupus pneumonitis is pleural effusion and infiltration, usually basal and bilateral<sup>5</sup>.

Although the most frequently isolated factor in community-acquired pneumonia is micobacterium pneumonia; In cases with SLE, no cardia aspergillus and S.aureus are the most frequently isolated microorganisms. Therefore; In these patients, initiation of broad spectrum antibiotherapy is recommended<sup>3</sup>. In acute lupus pneumonia, systemic corticosteroid (prednisolone 1-1.5mg / kg day) must be added to



**Figure -1.** On the non-contrasted computed tomography (CT) of the patient, parenchymal infiltrative densities with locally occurring air bronchograms were observed in both lungs

the treatment. If there is no improvement in clink within 72 hours in these patients, 1 g of methylprednisolone treatment is recommended for 3 days<sup>6</sup>.

## Conclusion

Although pneumonia is rare in patients diagnosed with lupus, it is a clinical condition with mortality. Broad-spectrum antibiotics and immunosuppressive treatment should be started, and necessary precautions should be taken to avoid other complications and close follow-up should be done.

## References

1. Santamaria-Alza Y, Sanchez-Bautista J, Fajardo-Rivero JE, Figueroa Pineda CL. Acute respiratory involvement in Colombian patients with systemic lupus erythematosus undergoing chest computed tomography. *Int J RheumDis*. 2019;22(10):1825-31.
2. Teh CL, Wan SA, Ling GR. Severe infections in systemic lupus erythematosus: disease pattern and predictors of infection related mortality. *Clin Rheumatol*. 2018;37(8):2081-6.
3. García-Guevara G, Ríos-Corzo R, Díaz-Mora A, López-López M, Hernández-Flores J, Fragoso-Loyo H, et al. Pneumonia in patients with systemic lupus erythematosus: Epidemiology, microbiology and outcomes. *Lupus*. 2018;27(12):1953-9.
4. Musher DM, Thorner AR. Community-acquired pneumonia. *N Engl J Med*. 2014;371(17): 1619–28.
5. Lazovic B, Zlatkovic-Svenda M, Jasarovic D, Stevanovic D. Systemic lupus erythematosus presenting as acute lupus pneumonia. *Arch Bronconeumol*. 2018;54(4):222-3.
6. Corte TJ, DuBois RM, Wells AU. Murray and Nadel's textbook of respiratory medicine. In: The lungs and connective tissue diseases. 5th ed. St. Louis, MO: Saunders Elsevier; 2010. p. 1398–429.

