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The Spectrum of Resistant Respiratory Infection in a Group of Iraqi Patients with Chronic Lymphocytic Leukemia.

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Background: Chronic lymphocytic leukemia (CLL) is the most common form of leukemia in the Western world but it significantly less frequent in Asia. Infectious complications continue to be the major cause of morbidity and mortality in CLL patients. Indeed, they account for the leading cause of death in most series that ranged between 30 and 50%. They were rendered susceptible to infections due to disease-related immunosuppression in addition to prolonged immunosuppression induced by treatment agents.

The aim of current study was to define the microbiological spectrum of resistant respiratory tract infection in a group of Iraqi chronic lymphocytic leukemia (CLL) patients.

Method: Thirty-eight patients were enrolled in this cross-sectional study which was conducted from March 2017 till June 2018 in different hematology centers in Baghdad, Iraq. It included any CLL patient presented with chest infection that didn't respond to empiric treatment. One to two early morning sputum samples were taken from each patient that subsequently examined by direct Gram stain, culture media and direct fungal stain with culture, as well as special stain for diagnosis of *Pneumocystis jirovecii* infection.

Result: The median age was 60.58 ± 7.76 years with a mean of disease duration 3.42 ± 2.61 year. Advanced age was associated with increasing risk of chest infection ($P= 0.003$). Bacterial infection represented (42%) of cases followed by fungal infection as (26%). Gram-negative bacteria were the commonest pathogens as (34.2%). *P. aeruginosa* being the most common species, while (26.3%) had Gram-positive bacteria such as *S. pneumoniae*. Five patients (13.16%) were labeled as positive for *Mycobacterium tuberculosis*. *Pneumocystis jirovecii* was detected in (3%) of patients.

Conclusion: Bacterial infection continued to be the most common pathogens comprising Gram-negative and followed by Gram-positive microorganisms in addition to *Mycobacterium Tuberculosis* with an increasing incidence of fungal infection