

Study suggests adjustments on the treatment of cancer patients with pneumonia

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Cancer patients are more likely to get infections. Pneumonia is the most frequent type of infection in this group and a frequent cause of ICU admission and mortality. A study conducted by researchers from the D'Or Institute for Research and Education (IDOR) in partnership with Brazilian hospitals and universities analyzed the factors associated with severe pneumonia in hospitalized cancer patients and suggests that more personalized treatment protocols can reduce mortality in these patients.

Until now, there was a consensus among the medical community that the majority of pneumonia cases in cancer patients were due to the immune system debility caused by the disease and to the exposure to multiresistant bacteria which can cause the [pulmonary infection](#). The idea was that these patients are more vulnerable to superbacteria because they spend a lot of time in hospitals.

The Brazilian researches decide to investigate this and their results point to a different scenario. By analyzing the medical data from 325 cancer patients hospitalized with pneumonia in three big hospitals, they found a low rate of multiresistant pathogens - less than 14% of the patients showed an infection of this kind.

The data suggests that the presence of multiresistant bacteria is not so important to explain the pneumonia development in this group of patients. "In our daily experience in the medical clinic we already had this perception and our study came to prove it", says the physician and IDOR researcher Jorge Salluh. "The severity of illness and organ

dysfunction seems to be the best predictors of outcome in this population."

New protocols

The discovery can lead to the development of safer and more effective methods to treat patients and low the mortality of people with cancer and pneumonia. Because of the previous idea that multiresistant pathogens have a big role in the development of pneumonia in cancer patients, the today's treatment for this population is an standardized antibiotic therapy. "We give to the patients two or three broad-spectrum antibiotic which acts against a wide range of multiresistant bacteria", says Salluh. "However, the reality is that the incidence of bacteria varies according the region of the globe and not all [cancer patients](#) with [pneumonia](#) are affected by superbacteria."

The broad-spectrum antibiotic therapy is the first choice of physicians because the result from the tests that are routinely utilized for pathogen detection can take 72h. Without having this much time to wait before taking an action, doctors have to choose the broad-spectrum treatment.

However this approach can lead to side effects and induce bacterial resistance to antibiotics. When bacteria are frequently exposed to antibiotics, they adapt to them and don't die anymore. The bacteria antibiotic resistance is one of the global challenges in health and considered a crisis by the WHO.

More efficient treatment

The Brazilian researches now study new protocols of treatment which can solve this situation. One of the options under consideration is to test faster methods of pathogen detection which can offer a result in 6 hours.

Another action in their minds is to conduct a broader study with more patients to develop models to identify patients at high risk for multiresistant [bacteria](#) infection. With these models it would be possible to discriminate patients at risk and give them the proper treatment. "Our goal is know how to choose the treatment that is more appropriate for each patient", concludes Salluh.

More information: Rabello LSCF, Silva JRL, Azevedo LCP, Souza I, Torres VBL, et al. (2015) Clinical Outcomes and Microbiological Characteristics of Severe Pneumonia in Cancer Patients: A Prospective Cohort Study. *PLoS ONE* 10(3): e0120544. [DOI: 10.1371/journal.pone.0120544](#)

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