

Old is new again: Study determines dosing for 1950s drug now being used to treat drug-resistant infections

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(Medical Xpress) -- An ongoing study led by a University of Pittsburgh researcher has established the first scientifically-based dosing guidelines for a more than 50-year-old drug that has re-emerged as the best, and often only, treatment for some bacterial infections that are resistant to modern therapies. The study appears in the July issue of the journal *Antimicrobial Agents and Chemotherapy*.

Researchers say preliminary results of the study are important because the [drug](#), called colistin, was introduced in the 1950s before the inception of modern drug development protocols so there is little information available to determine the correct dose for patients. With no [new drugs](#) in development, physicians have increasingly turned to colistin as the number of drug-resistant infections have risen, researchers say.

“These infections are associated with a high morbidity and mortality due to the lack of adequate antibiotics and also due to the fact that they normally occur in hospitalized patients, especially those who already are critically ill,” said Fernanda P. Silveira, M.D., M.S., associate director of education, Division of Infectious Diseases, University of Pittsburgh School of Medicine. She led the study along with Roger Nation, Ph.C., M.S., Ph.D., professor, Monash University in Melbourne, Australia and Jian Li, Ph.D., M.Sc., senior research fellow, Monash University.

Because the drug was developed so many years ago, there are no dosing recommendations for critically ill patients, including those on renal replacement therapy or those who are critically ill, both populations that increasingly require this antibiotic, Dr. Silveira said.

Colistin is administered as an injection. Researchers determined dosages using a complex formula after testing the blood of 105 critically ill patients at various times prior to and after receiving colistin. The participants tested at sites in the United States and Thailand were all adults who were already receiving colistin for either bacterial bloodstream infection or pneumonia. Researchers hope to refine the dosages after data is analyzed from all 238 participants who will eventually be recruited for the study.

Dr. Nation and Dr. Li, who have been working on colistin for the past 12 years, said they are delighted to see these much-needed dosing guidelines finally developed which will allow physicians to better use this important antibiotic of last resort and minimize the emergence of resistance.

Provided by University of Pittsburgh School of Medicine

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