Discovery boosting effectiveness of antibiotics 'major step forward': NTU scientists

The study by NTU found that a community of bacteria - known as biofilm - can put up a strong line of defence to resist antibiotics.

SINGAPORE: The effectiveness of antibiotics could be enhanced by disrupting the cell-to-cell communication between bacteria and their ability to latch on to each other, said scientists from Nanyang Technological University (NTU) on Wednesday (Mar 30).

The findings will be a “major step forward” in tackling the growing concern of antibiotic resistance, opening up new treatment options for doctors to help patients fight against chronic and persistent bacterial infections, they added.

Led by Assistant Professor Yang Liang from the Singapore Centre for Environmental Life Sciences at NTU, the study found that a community of bacteria - known as biofilm - can put up a strong line of defence to resist antibiotics.

“Many types of bacteria that used to be easily killed by antibiotics have started to develop antibiotic resistance or tolerance, either through acquiring the antibiotic resistant genes or by forming biofilms,” the Asst Prof said.

He added that the US Center for Disease Control estimates that more than 60 per cent of all bacterial infections are related to biofilms.

Associate Professor Kevin Pethe, an expert in antibiotic development and infectious diseases from NTU’s Lee Kong Chian School of Medicine, said: “While the scientific community is developing new types of antibiotics and antimicrobial treatments, this discovery may help to buy time by improving the effectiveness of older drugs.”
The study, supported by the Ministry of Education Academic Research Fund, took Asst Prof Yang and his team four years to complete. Moving forward, they will seek more ways to improve the efficiency of antibiotics for persistent infections.

“What we hope to do is to develop new compounds that are able to better target biofilms,” he said. “This will help existing drugs perform better at overcoming biofilm infections, which is commonly seen in cases of patients with artificial implants and chronic wounds, as they have very limited effective treatment options that are effective.”

NTU said the research was published recently in academic journal Nature Communications.

Source: CNA/xk

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By Fann Sim /author/8226772
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