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Taiwan develops world's first AI-powered sepsis alert system

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To assist physicians in the early identification of patients at higher bacteremia risk



A team of researchers at China Medical University Hospital (CMUH) has developed Intelligent Sepsis Early Prediction System (ISEPS), the world's first artificial intelligence (AI)-powered sepsis alarm system.

The AI model of ISEPS takes only one minute for the early detection of sepsis and bacteremia to help clinicians identify patients at higher risk and provide early intervention with antibiotics to improve patient outcome and prevent it from progressing to sepsis.

When compared to conventional blood cultures, it doesn't require additional blood collection or device operation, reducing the demands on healthcare labour while keeping the timeliness and quality of management.

Bacteremia is a relatively common acute condition, occurring in about 30% of UTI patients. Without prompt intervention, bacteremia can escalate to septic shock, resulting in a mortality rate exceeding 40%. For each hour delayed for antibiotic administration, the mortality risk increases linearly by 7-9%.

With the ability to provide immediate bacteremia risk prediction, ISEPS provides the physicians timely and precisely assistance against infectious disease. It is currently being regularly used in CMUH and is expected to be a topic of future collaborations with more medical institutions to enhance the timeliness and quality of infection management.