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Singapore takes step forward in diagnosing severe cases of dengue

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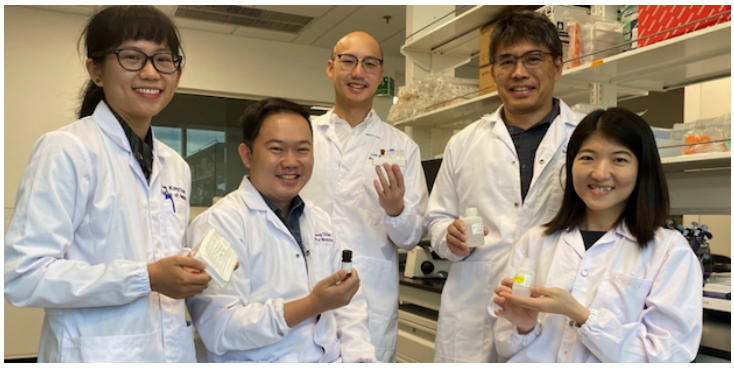
sST2 and suPAR show more promise in identifying those at risk of severe dengue



Scientists and clinicians at Nanyang Technological University, Singapore (NTU Singapore) and the National Centre for Infectious Diseases (NCID) have identified two compounds, sST2 and suPAR, in the blood of dengue patients that could determine if a patient is at risk of severe dengue in the early phases of the disease.

As lateral flow test kits for sST2 and suPAR are already commercially available and are used to test for heart failure, the researchers are working on validating and adapting these tests into a kit that could test for severe dengue.

The researchers estimate that this new method of monitoring the levels of the two compounds would bring a higher accuracy, 55 to 60 per cent, of predicting severe dengue than the traditional assessment approaches. The researchers said the test kits would greatly aid clinicians in distinguishing between non-life-threatening cases of dengue fever and severe dengue, which requires hospitalisation.

The scientists and clinicians discovered the importance of sST2 and suPAR in determining dengue severity during a study conducted between 2016 and 2019 involving 129 dengue patients treated in Tan Tock Seng Hospital, Singapore.

The researchers plan to validate their findings by recruiting patients in the earlier dengue disease phase to test for sST2 and suPAR levels, and to follow up on these patients if they develop severe dengue.