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Paper test strip designed for heart patients

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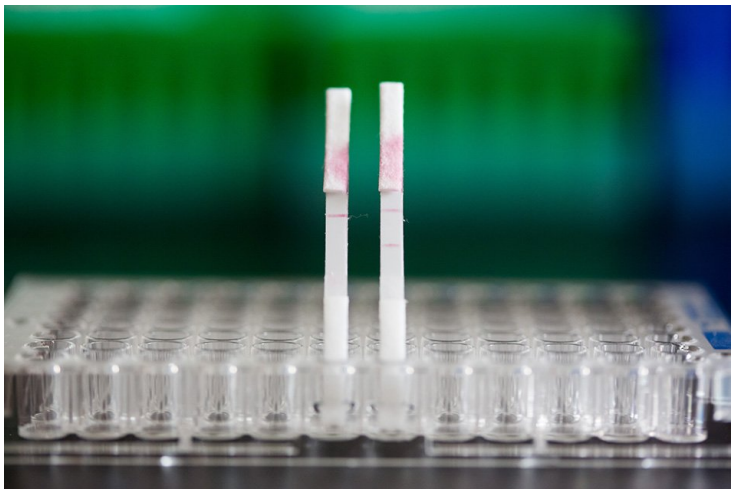

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Antigens ST2 and BNP are good indicators of heart failure and how it's progressing. But currently, analyzing the levels of these biomarkers requires both trained personnel and sophisticated lab equipment.

The paper-based test requires only a small blood sample of 10 microliters. A blue dot glows on the strip if antigen ST2 is present in the sample, and a green dot glows if it contains the antigen BNP. The colors' intensities increase with concentration, which indicates a person's heart failure is likely becoming worse.

A smartphone app can analyze the readout and send the results to the patient's doctor, who can adjust the patient's treatment accordingly. Testing 38 serum samples from people with heart failure showed that the paper test closely matched conventional techniques.