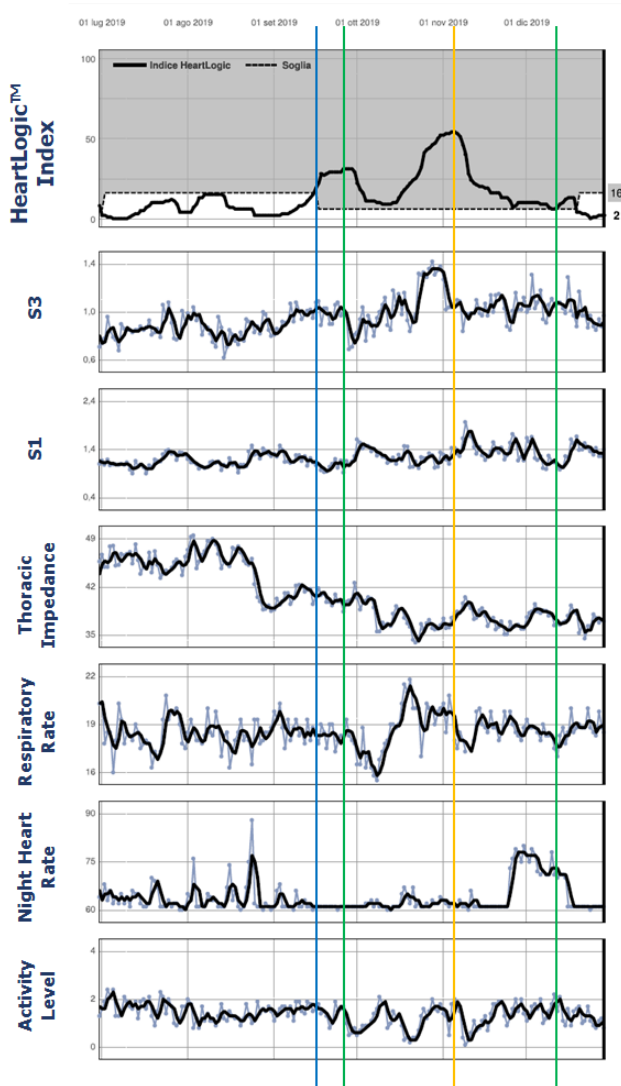


Case Of The Month #3_2020

A 75-year-old man with ischemic cardiomyopathy, 25% ejection fraction, left bundle-branch block and paroxysmal atrial fibrillation underwent implantation of a CRT-D device for secondary prevention of sudden death on September 11th, 2018. The HeartLogic™ index was activated at the time of implantation



On September 16th, 2019 an HeartLogic™ alert was notified to the center (blue line). The nurse called the patient twice (16th and 23rd of September) and he reported no signs or symptoms of HF, but few days later, during a scheduled in-office visit, third heart sound and pulmonary stasis were detected at examination.

The patient was hospitalized on September 27th for a scheduled Levosimendan cycle (first green line).

At echo evaluation, a moderate-severe mitral insufficiency was observed and a NT-proBNP value of 8441 pg/mL was measured. According to these findings, the patient received an intravenous diuretic therapy.

One week later the NT-proBNP value was 5275 pg/mL and the body weight declined by 3 Kg, with an improvement in the reported status.

The patient underwent Mitraclip implantation and Left Atrial Appendage Closure (Watchman device) on November 8th, 2019 (yellow line). The surgery procedures were successful and, at echo evaluation, the mitral regurgitation degree was mild-to-moderate.

On December 13th, 2019 (second green line), during a HF scheduled visit, the patient reported dyspnea on effort and a mild hepatomegaly was detected at objective evaluation. The NT-proBNP value was 6728 pg/mL. The physician decided to increase the diuretic therapy and one week later the alert was resolved.

The analysis of the trends showed that before the HeartLogic™ alert an increase in third heart sound and marked decrease in thoracic impedance occurred: these trends are in line with the heart sound auscultation and pulmonary stasis detected at in-office visit. After Levosimendan cycle a rapid decrease in HeartLogic™ index was observed. Before the valve surgery, the HeartLogic™ index increased, mainly driven by third heart sound and respiratory rate: these two parameters are correlated to the main sign and symptoms of mitral disease (third heart sound and dyspnea).

This case highlights three main points:

- the ability of HeartLogic™ to detect early worsening in heart failure status, even in absence of signs and symptoms;
- the HeartLogic™ was good also in detecting valve disease and was able to recognize when mitral function was restored through a marked change in its trend after valve surgery;
- in agreement with Gardner et al (1), this case highlights also the association between the HeartLogic index and the NT-proBNP value.

Courtesy of Fondazione Poliambulanza, Brescia (ITALY)

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