

Case Of The Month #2 2020

A 80 year-old man underwent implantation of PERCIVA ICD VR for primary prevention of sudden cardiac death on December 19th 2017 and HeartLogic™ index was activated immediately after implantation.

After implantation the patient was fine till March 17th, 2018, when the HeartLogic™ index crossed the nominal threshold (16) and an HeartLogic™ alert was notified to the center (blue line).

The physician tried to contact the patient by phone in order to perform the heart failure signs and symptoms assessment. In the following days, he was in “Not monitored” state on Latitude, till May 5th, 2018. At that time the physician became aware that the alert state was persisting.

Patient reported two hospitalizations occurred in April (from 3rd to 8th and from 20th to 26th) for pleuritis (red lines) with secondary diagnosis of heart failure. Since the hospital discharge, the HeartLogic™ index started to decline and physician decided to continue the remote monitoring without additional actions: on June 2nd HeartLogic™ index crossed the recovery threshold.

The patient remained in stable condition till September 7th when a new HeartLogic™ alert was notified. At in-office visit on September 10th, worsening in heart failure signs and symptoms was observed and the diuretic therapy was increased (green line).

Few days after the visit the HeartLogic™ declined and on September 29th the alert status ended.

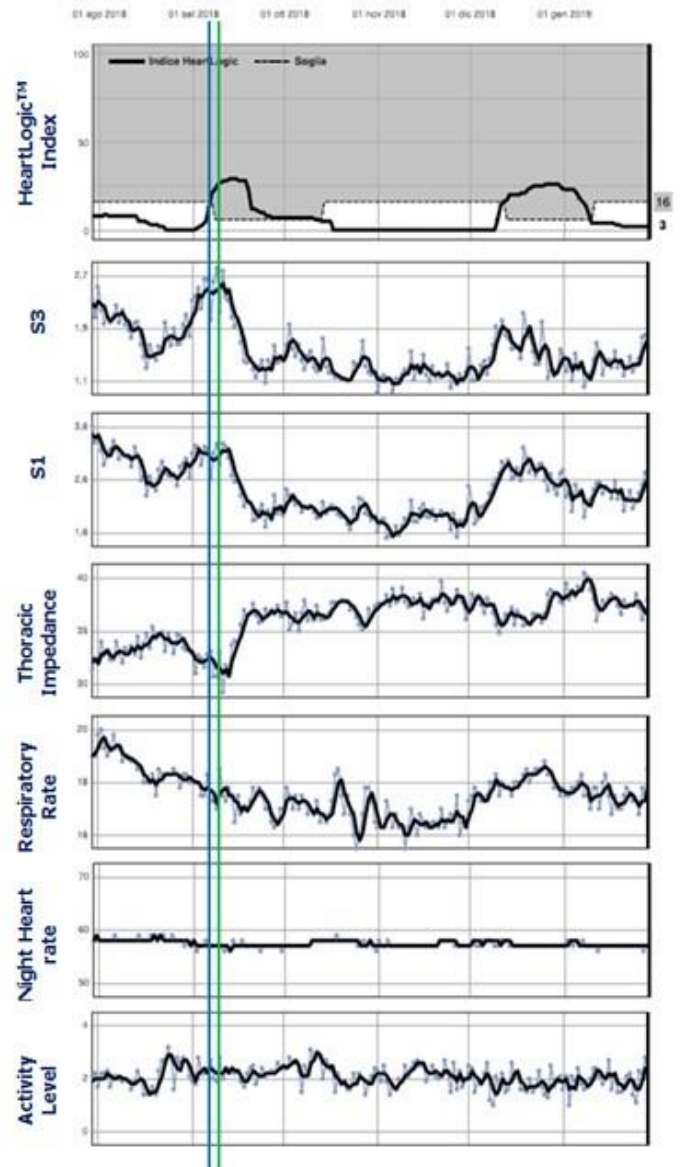
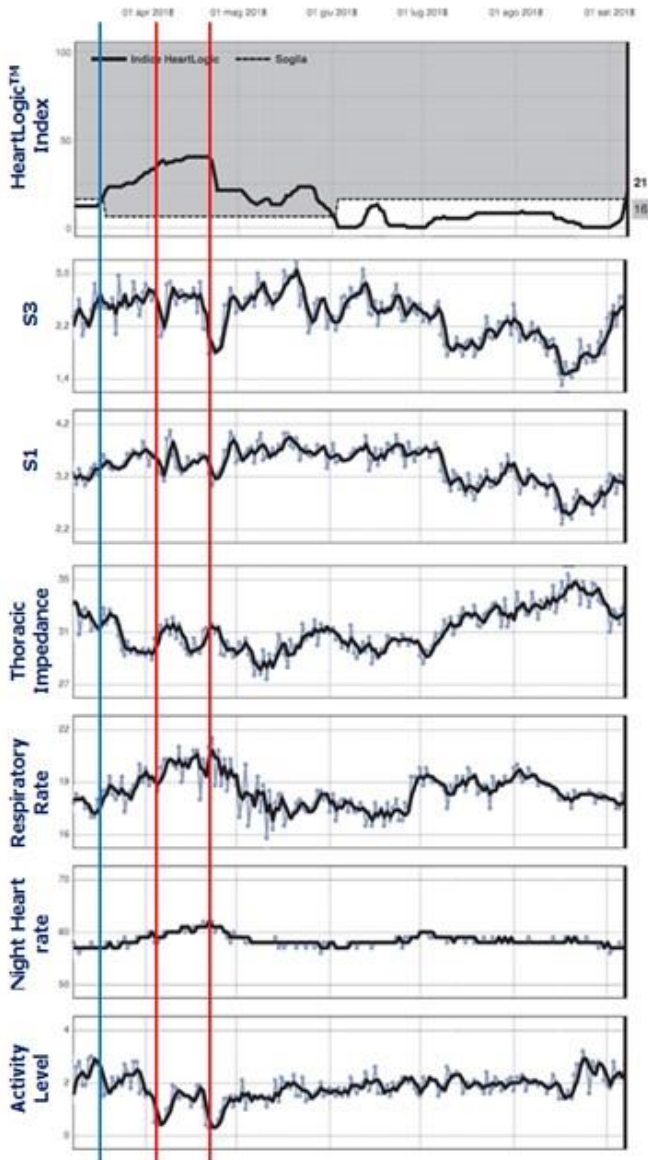
The analysis of the contributing trends at the time of alerts showed different contributions for the two alerts. In the first case, major contribution is provided by Respiratory Rate, in agreement with the concurrent diagnosis of pulmonary disease.

The second alert (when no pulmonary involvement was detected) was determined by an increase in Third Heart Sound and decrease in thoracic impedance. Following the increase in diuretics, marked decline in Heart Sound and increase in impedance were observed.

In this case HeartLogic™ index predicted two kinds of events: pure HF decompensation and HF with pulmonary complications. Contributing trends provide information for the interpretation of the clinical event and may facilitate differential diagnosis. Among the sensed parameters that contribute to the calculation of the index, accelerometer-based heart sounds seem to correlate well with HF status, as reported in our published experience with HeartLogic™.

The events described are reported in the HeartLogic™ and sensors trends below:

- Blue lines: HeartLogic™ threshold crossing
- Red lines: Hospitalization for pleuritis
- Green line: in-office visit for HF



Courtesy of **Monaldi Hospital - Naples**

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