

# SYSTEM FOR AUTOMATIC PROCESSING OF VEGETATIONS IN ECHOCARDIOGRAPHIC IMAGES

A research group from SACYL, ICSCYL and CIBER has designed a new system to automatically analyse vegetations in patients with infective endocarditis.

## The Need

In patients with infective endocarditis, there is a correlation between vegetation parameters and disease outcome. Currently, the measurement of vegetation parameters is performed manually, drawing lines or points on an image. This leads to a notably sub-optimal treatment design. Nowadays, there is no system capable of automatically analyse vegetations within the heart. Nor are there any tools available to automatically obtain the motion and structure parameters of these vegetations.

## The Solution

The present invention focuses on an automated and reliable system for detecting and segmenting vegetations within the heart by analyzing echocardiographic images. This system can detect and segment the vegetation and automatically extract key data.

## Innovative Aspects

- The system can automatically detect one or more vegetations in each echocardiographic image using a deep neural network.
- It also determines position and movement parameters of vegetations.
- The system also enables accurate diagnosis of the possibility of embolism and allows the detection of heart valve obstructions.

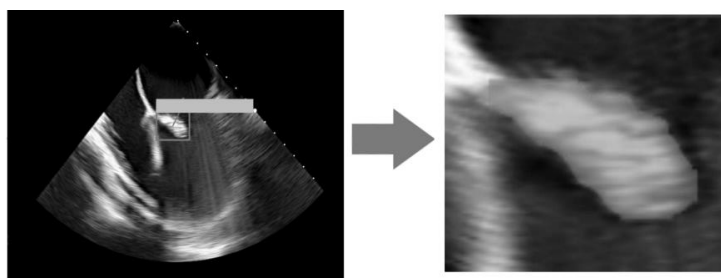


Fig. 1. Automatic analysis of active vegetations

## Stage of Development:

The team is currently finishing the preclinical validation of a prototype.

## Intellectual Property:

- Priority patent application filed

## Aims

Looking for a partner interested in a license and/or a collaboration agreement to develop and exploit this asset.

 **CV**

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