A-Valve

Determine the optimal C-arm position
Objectively quantify aortic regurgitation
Recent developments in valve replacements have intensified the use of advanced imaging techniques in the cathlab. But why not use the imaging technology already available for guidance and post procedural evaluation? CAAS A-Valve uses X-ray images to assist physicians during valve replacements. The optimal projection module helps to limit contrast use by determining the optimal projection to place the valve. After the procedure, the peri-prosthetic regurgitation can be quantified on the spot.

CAAS

For over 25 years, numerous cath labs, research institutes and angiographic core laboratories have been using our CAAS products. For example CAAS Workstation, which features quantification of coronary arteries, peripheral vessels and the left and right ventricle. CAAS A-Valve is the most recent addition to our X-ray product line. Visit our website to get an overview of our CAAS workflows.

Usability is key

> Dedicated workflow assistants
> Accepts DICOM images from all major medical imaging vendors
> Export of results to DICOM or XML format
> CAAS A-Valve can be installed on any modern Windows based laptop or desktop

Find out more or contact us at piomedicalimaging.com
CAAS A-Valve provides quantification of time versus density curves to assess regurgitation immediately after placing the valve, by using X-ray images. Whereas visual determination can lead to an underestimation of regurgitation due to the interference of ribs and other structures, the regurgitation (qRA) index determined by the software is objective and reproducible.

Just a few clicks are required to define the contours of the aortic root and ventricle. The software propagates these contours over time while correcting for cardiac movement. Both the density of contrast in the aortic root and ventricle are used to determine the qRA index. The dynamic color map clearly visualizes the severity and extend of regurgitation.

The qRA index highly correlates with visual estimation as described by Sellers [1]. It is however, more reproducible and user independent [2]. Since the qRA index is based on X-ray imaging, it makes aortic regurgitation assessment in the catheter laboratory feasible.

Trying to find the optimal aortographic projection of the aortic root can be challenging. CAAS A-Valve’s optimal projection module requires only two aortograms to determine the PRL-projection, which is the projection that shows all cusps visible and aligned.

Contours on both aortograms are used to create a 3D geometry, which the algorithm uses to calculate a patient specific graph of optimal projections, and the PRL-projection in particular, from this 3D geometry.
Quantification of Regurgitation

> Quantify aortic regurgitation during the procedure
> Solely based on X-Ray

Optimal Projection

> Determine the optimal C-arm position for valve placement
> 3D reconstruction of aortic root
Pie Medical Imaging stands for:
> The gold standard in Quantitative Analysis software
> Extensively validated for patient care
> Accurate and reproducible analysis results
> Fast and intuitive operation
> Expertise in cardiovascular quantitative analysis software

Quality Assurance:
Pie Medical Imaging develops, produces and sells its products in accordance with internationally accepted standards. This product of Pie Medical Imaging is CE marked and FDA 510(k) cleared.

Quality Management System complies with:
> ISO 13485
> FDA Quality System Regulation
> Canadian CAN/CSA ISO 13485

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