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How an echocariologist can work off-line in a personal computer on the echocardiography images at the level of mitral valve?

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Background: The objective of this presentation is to provide an educational survey on the mitral valve geometrical indices measurements using MATLAB software offline in a personal computer as an echo desk for further information and recommendation before mitral valve repairs or the other treatments.

Methods and Results:

Utilizing mathematical equation and MATLAB software (a simple echo desk) to measure the geometrical mitral valve variables offline based on 2D or 3D conventional echocardiographic images.

MATLAB software as an echocardiography desk: Open the MATLAB software. Write down the command pic = imread('') in the command window. You can use this command to read an echocardiographic image from your computer and in a variable like a put. You must write the image address, image name and photo extensions in parentheses. For example, your echocardiographic image is in the following address: C:\Users\USER\Desktop\echo image 1.jpg. You should write the above command like this: pic = imread('C:\Users\USER\Desktop\echo image 1.jpg'); Finally, call that image by imshow(pic) command and then save the program and click the RUN bottom. You will see that a new window is opened and the image you are looking for is displayed. You can edit or measure the distances of the image using the menus above this observed image (Figure A). You can also extract frames from an echocardiography video clip of a patient by writing down the command Avi2frame ('1.avi', 'OutputFolder','jpg') in the command window and then you can work offline on echocardiography images frame by frame to calculate quantitative data (Figures B and C).

Conclusion: In spite of the introduced methods applied for echocardiographic datasets at the level of mitral valve for practical applications and clinical verifications. The most important applications, however, may be pedagogical. A computer desk (online or offline) can help an Echocardiologist to work on the echocardiographic images to evaluate the data.

Abstract P1759 Figure. working offline on echo images