

Ventriculography

Ventriculography has the task of **showing the heart cavities**, their volumes and changes during the heart cycle, or pathology. There are two ways to view the heart cavities:

- **first-flow angiocardiology;**
- **gated ventriculography.**

First-flow angiocardiology

A radiopharmaceutical with a short half-life (as many conversions as possible in a short time) is administered as a **bolus to a vein** as close as possible to the heart (Jugular vein). We then monitor the flow of the radiopharmaceutical through the individual cardiac compartments on a **dynamic** scintigraphic record. The examination of the heart can be followed by an examination of the blood vessels, but with less accuracy, as the bolus of the radiopharmaceutical is diluted.

Gated ventriculography

Gated ventriculography requires the patient to be connected to an ECG. After iv administration of the radiopharmaceutical, wait a while for the labeled substance to distribute homogeneously in the bloodstream. It is most often labeled with ^{99m}Tc , either autologous erythrocytes or albumin.

The scintillation camera is connected to the ECG. The heart revolution is divided into different numbers (between 16 and 32). Each R oscillation starts a new tracking, the captured images are averaged in individual phases. About 500 heart cycles need to be recorded for the exam to be performed correctly. Examinations can also be performed using the SPECT technique .

Computer technology processes the measured data. The output can then take the form of:

- **average heart revolutions** - one heartbeat caused by averaging all scintigraphic measurements;
- **volume curves** - a graph of the volume of cardiac sections, expressed in terms of one averaged cycle, expressed from the activity of the flowing blood.

We can therefore evaluate the volumes of the heart cavities in different phases of the cycle, the rate of their filling, the shape of the cavities and their mutual relations.

Links

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