

Tricuspid regurgitation

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Tricuspid regurgitation is caused by the insufficiency of the tricuspid valve between the right atrium and the right ventricle. Mild or trace tricuspid regurgitation is a common echocardiographic finding without hemodynamic effects. Significant insufficiency may be either primary or more often secondary due to pulmonary hypertension or left heart disease. Diagnostics is based upon echocardiography examination. Cardiac surgery still dominates in the treatment of major insufficiency, although various catheterisation approaches are being tested.

Etiopathogenesis

Most often, tricuspid regurgitation is functional and thus a secondary pathology. It arises on the basis of **dilatation of the tricuspid valve annulus** during dilatation and systolic dysfunction of the right ventricle. This is most often due to **pulmonary hypertension**, dilated cardiomyopathy, right ventricular infarction or **left heart disease** (mainly mitral stenosis or regurgitation). The development of secondary tricuspid regurgitation can also occur with an atrial septal defect.

The tricuspid valve involvement may also be **primary** due to abnormalities of the valve tips. These are caused by **rheumatic valve involvement** (usually together with mitral and aortic valves), carcinoid, myxomatous disease, Marfan syndrome, **infectious endocarditis** (mainly in patients with a history of drug abuse or poorly treated central venous catheters) or a congenital defect in the form of Ebstein anomaly. Valve damage can also be iatrogenic during endomyocardial biopsy or catheterization of the right heart.

Thus, pathophysiologically, (most often secondary) tricuspid regurgitation results in pulmonary hypertension or left ventricular disease due to pulmonary hypertension or left heart disease. It dilates, which leads to dilation of the annulus of the tricuspid valve and the development of regurgitation. Atrial fibrillation may also be involved in annulus dilatation, which is related to left / right atrial dilatation. Tricuspid insufficiency then further contributes to the volume overload of the right ventricle and at the same time increases the pressure in the right atrium, which can also dilate. As a result, it can lead to congestive heart failure or atrial fibrillation.

The clinical picture

The clinical picture is actually formed by findings such as right heart failure, ie swelling of the lower limbs, ascites, hepatosplenomegaly, increased filling of the jugular veins (sometimes with systolic pulsation) and weight loss to cachexia. In addition to swelling, patients report symptoms such as fatigue and palpitations.

Auscultative finding is a systolic murmur in the lower sternum, which can be highlighted during inspiration.

Diagnosis

The ECG finding is usually nonspecific, most often an incomplete block of the right Tawara arm and atrial fibrillation. Catheterization is used in some cases to assess hemodynamic changes and diagnose pulmonary hypertension, which is often involved in the pathophysiology of tricuspid regurgitation.

The basic diagnostic tool is echocardiographic examination. Possible abnormalities of the tricuspid valve, their functional impact, morphology and function of the right ventricle and systolic pressure in the lungs are assessed. In addition, many other parameters are considered, including flow in the hepatic veins. Based on all the parameters found, it is often possible to distinguish between primary and secondary valve involvement during this examination.

Treatment

Most often, tricuspid insufficiency is secondary, so treatment of the primary causative disease is a common strategy. In some cases, treatment of heart failure is necessary.

The surgical solution is reserved mainly for symptomatic severe primary regurgitation, for severe or moderate regurgitation during simultaneous cardiac surgery on the left valves, or for patients with progressive dilatation and right ventricular dysfunction. There are, of course, other indication criteria that are still under discussion, as the severity of tricuspid regurgitation can significantly affect the prognosis of cardiac patients. surgical solution usually takes the form of annuloplasty of the tricuspid ring, sometimes proceeding to valve replacement (preferably by bioprosthesis). Catheterization techniques already exist today tricuspid valve procedures, but no clear diagnostic criteria have yet been established.

References

Related articles

- Tricuspid valve stenosis
- Acquired heart defects
- congenital heart defects

External links

- Trikuspidální regurgitace - Šelest - Audio nahrávky (TECHmED (<https://www.techmed.sk/holosystolicky-selest/>))
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Source

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