Medical Expertise

"Development of the European Network in Orphan Cardiovascular Diseases"
„Rozszerzenie Europejskiej Sieci Współpracy ds Sierocych Chorób Kardiologicznych"

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CASE SUMMARY

This is the history of 25-year-old very tall man (197 cm). He was admitted with suspected pulmonary hypertension (RVSP = 25 + 15 mmHg). He has ankle swelling subside spontaneously. He has an active lifestyle and does not avoid sports. His brother is suffering from bronchial asthma and his mother of Hashimoto's thyroiditis, and uncle of diabetes mellitus type 1. From approximately two years, the patient has a non-specific muscle pain. In laboratory tests, a transient increase in CPK was noted. The patient did not present any neurological symptoms. In echo study, the VCI diameter was 22mm. In addition, control laboratory studies were: WBC 2 750 [3 800 - 10 000]; Max VO2 / kg: 54.1 ml (kg * min). Currently, no chest pain, no arrhythmias and no ST-T changes. In the 6-minute walk test, the distance walked was 780m. The patient did not complain of dyspnea. Nevertheless, desaturation was observed. Control echocardiography revealed: LVEDd - 57mm; EDP - 232ml; ESV - 93ml; EF - 60-65%; E / A - 1.45; E '- 0,15 m / s, E / E' - 6, RVOT - 30mm; RVa - 23cm2; Taps - 28mm; . RVSP - 23 + 15 mm Hg; The Angio CT revealed extension of VCI - 30 / 34mm. In addition, compression of the renal vein was found as well as numerous extended veins (fistula? / collateral circulation?). Cardiac catheterization revealed that the total cardiac output was 11.0 l/min. Saturation of blood in the right side of the heart was significantly increased (approx. 83-90%)

DISCUSSION

By definition, hyperdynamic circulation is caused by abnormally increased peripheral circulating blood volume. The vasodilatation is present and decrease peripheral vascular resistance with decrease the pulmonary capillary wedge pressure. Usually also arterial blood pressure is lowered.

Echocardiography and tissue Doppler is particularly useful in the assessment of hyperdynamic circulation. Royse et al. (1) showed that both systolic and diastolic blood flow velocity were significantly increased in those patients. Hyperdynamic circulation may result from cirrhosis of the liver, as well as due to septic shock, anemia, hypoxia, hypoglycemia, hyperthyroidism, intoxication. One always must remember about the toxic effects of drugs, particularly amphetamines (2-10). Modern diagnostic methods allow monitoring of cardiac output (11-13).

In describing case, the patient's cardiac output was significantly increased, which justifies the

diagnosis of hyperdynamic circulation.

EXPERT'S OPINION

In my opinion, the patient requires further observation. It is advisable to perform capillaroscopy as well as lower extremity angiography to exclude any peripheral fistulas.

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