Lancisi sign: prominent C–V waves of severe tricuspid regurgitation

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DESCRIPTION

A 74-year-old man was referred from the tertiary emergency hospital to our home healthcare service with progressing dyspnea. He had a medical history of atrial fibrillation and left-sided partial anomalous pulmonary venous connection into the left brachiocephalic vein. He was taking diuretics, antiarrhythmic drugs and anticoagulants. He was afebrile with blood pressure of 107/52 mm Hg, pulse rate of 58 beats/min, respiratory rate of 22 breaths/min and oxygen saturation of 96% on 5 L/min of oxygen at the first home visit. On physical examination, grade 2/6 systolic murmur best was heard at the left lower sternal border, and lung sounds were clear. On jugular venous examination, prominent pulsations of the jugular vein were monomorphic noted known as Lancisi sign (figure 1 and video 1). Blood test showed no obvious abnormalities. Bedside transthoracic echocardiography at home showed severe tricuspid regurgitation (TR) and enlargement of the right ventricle, accompanied by mild dissection of the central tricuspid valve and paradoxical motion of the interventricular septum. The patient was diagnosed as severe TR at that moment. Tricuspid valve surgery was considered inoperative due to an increased perioperative mortality risk. He continued diuretics; however, he died at the 4-month follow-up.

Lancisi sign is a classic physical finding caused by an increased backflow to the right atrium during systole due to severe TR. The normal physiologic central venous waveform consists of three peaks (A, C and V waves) and two descents (X and Y descents).¹ The TR V wave merges with the C wave to form a single prominent C–V wave.² This causes prominent visible systolic neck pulsations. This physical finding has been reported in 38% of

Video 1 On jugular venous examination, prominent pulsations of the jugular vein were noted known as Lancisi sign. The tricuspid regurgitation V wave merges with the C wave to form a single prominent C–V wave. (He had atrial fibrillation, which makes it difficult to find the A wave.)

patients with severe TR.³ However, this sign is not specific for the presence of TR. This sign might be false positive in patients with atrial fibrillation or hyperdynamic state.³ A careful physical examination of the jugular venous pulse is needed.

The eponymous Lancisi sign is derived from the name of Giovanni Maria Lancisi, who was an Italian physician, well-known as an anatomist and epidemiologist, and made an important contribution to many fields of medicine. He found the correlation between the presence of mosquitoes and the prevalence of malaria, and developed the stamping out method for eradication of the cattle plague in Europe.⁴

Patient's perspective

The wife of this patient's perspective, 'I would like to help medical care all over the world, by providing this information'.

Learning points

- ▶ The tricuspid regurgitation V wave merges with the C wave to form a single prominent C–V wave, known as Lancisi sign.
- ▶ Lancisi sign might be false positive in patients with atrial fibrillation or hyperdynamic state.
- ▶ Giovanni Maria Lancisi found the correlation between the presence of mosquitoes and the prevalence of malaria, and developed the stamping out method for eradication of the cattle plague in Europe.

Figure 1 On jugular venous examination, prominent pulsations of the jugular vein were noted known as Lancisi sign in the anterolateral view (A), and in the lateral view (B).

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