

CARDIOVASCULAR FLASHLIGHT

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Bottom-up cardiac impact of a pubic ramus fracture

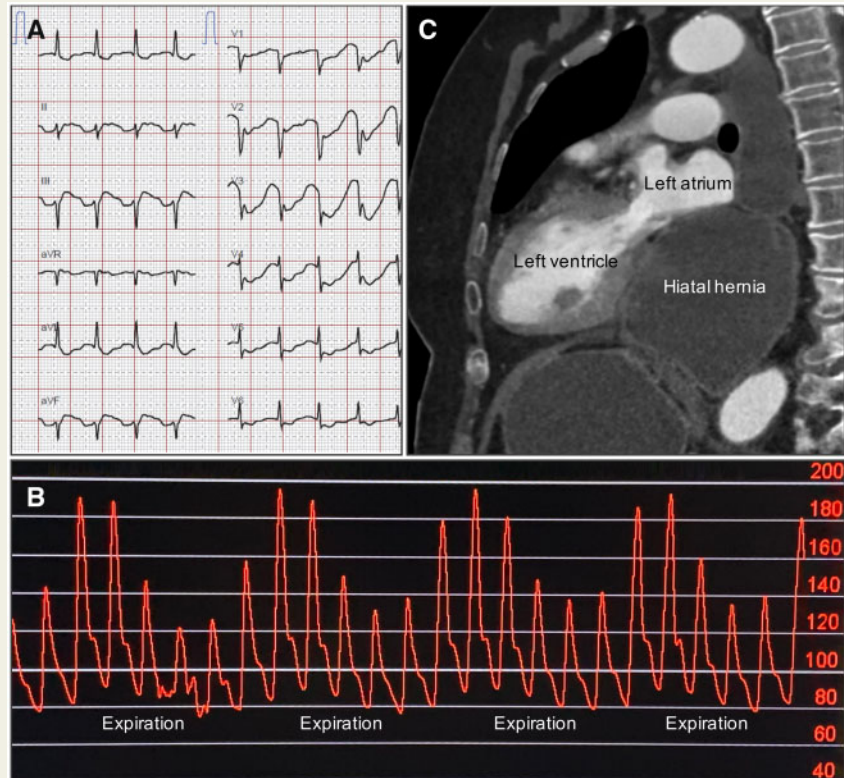
Jonas Dominik Häner  and Jonas Lanz *

Department of Cardiology, Bern University Hospital, University of Bern, 3010 Bern, Switzerland

* Corresponding author. Tel: (+41 31) 632 50 00, Fax: (+41 31) 632 42 99, Email: jonas.lanz@insel.ch

A 78-year-old female patient was hospitalized for conservative treatment of a traumatic pubic ramus fracture. Five days later, she developed epigastric pain and vomitus. The electrocardiogram (ECG) was suggestive of inferior–posterior ST-elevation myocardial infarction (*Panel A*). Emergency coronary angiography, however, revealed normal coronary arteries. Left ventricular angiography showed hyperdynamic systolic left ventricular function and severe mitral regurgitation. During expiration, a drop in systolic aortic pressure of 50 mmHg was noted (*Panel B*). Due to a supra-diaphragmatic tumour visible on fluoroscopy, computed tomography was ordered, which revealed perforation of the ileum by a pubic bone fragment causing mechanical ileus with massive distention of hiatal hernia and compression of the left heart chambers (*Panel C*). After insertion of a nasogastric tube, ECG normalized and mitral regurgitation disappeared. The patient underwent laparoscopic surgery with ileostomy and was discharged 14 days later.

Extrapericardiac masses may cause ischaemia-like ECG changes by left ventricular compression. The drop in systolic blood pressure during expiration can be explained by the cranial shift of the hiatal hernia increasing compression of the left atrium and distortion of the mitral valve complex with dynamic mitral regurgitation and resulting in less antegrade ejection of the left ventricle.



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