Severely dilated right atrium with spontaneous coronary sinus thrombus

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A 23-year-old girl had been bloating with no obvious incentive for 2 months. Physical examination revealed the presence of abdominal distension, positive shifting dullness and umbilical hernia (Panel A). Computed tomographic scanning of the abdomen showed massive ascites and serious hepatic congestion (Panel B), therefore, a continued echocardiography was conducted. The echocardiography remarkably displayed the dilation of the right atrium with signs of that the mediolateral and vertical diameters were ~14 and 15 cm, respectively. Apical four-chamber view demonstrated that the tricuspid had lost the function as a valve with the existence of a severe regurgitation (Panel C and Supplementary material online, Video SA). Right atrial spontaneous echo contrast could be seen, which suggested that the blood was in a hypercoagulable state. The cross section of the coronary sinus (CS) showed a significant dilatation of the CS, an irregular sessile mass could be seen in it (Panel D and Supplementary material online, Video SB), which was most likely to be a thrombus. The thrombus had been aspirated from the CS during the tricuspid valve replacement surgery (Panel E) and the post-operative echocardiography showed a complete resolution of the thrombus (Panel F and Supplementary material online, Video SC). We report this case as coronary sinus thrombosis (CST), which is a very rare occurrence. Furthermore, at the best known of our knowledge, the conjoint phenomenon of the spontaneous formation of the CST as well as no concomitant clinical symptoms, has never been reported.

(Panel A) Umbilical hernia; (Panel B) massive ascites (arrow 1) and hepatic congestion (arrow 2); (Panel C) severe regurgitation (arrow) of tricuspid; (Panel D) thrombus (arrow) in coronary sinus; (Panel E) the thrombus aspirated from the coronary sinus; (Panel F) Coronary sinus without thrombus in the post-operative echocardiography. LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle.

Supplementary material is available at European Heart Journal online.