

Semiology of Cardiac Tamponade: Jugular Vein Distention

Semiologia de um Tamponamento Cardíaco: Turgescência Venosa Jugular

Pedro Fernandes Moura¹ , Fernando Mané² , Pedro Neves¹ 

Palavras-chave: Derrame Pericárdico; Pericardiocentese; Tamponamento Cardíaco; Veias Jugulares/patologia.

Keywords: Cardiac Tamponade; Jugular Veins/pathology; Pericardial Effusion; Pericardiocentesis.

Cardiac tamponade is a critical medical condition characterized by dysfunction of cardiac filling due to increased diastolic pressure. This phenomenon may occur due to a pericardial effusion. The increased pressure resulting from this condition may lead to hypotension, muffled heart sounds, and jugular

venous distension (JVD), signs that compose the Beck triad.

We present a case of a 51-year-old male with advanced lung cancer who sought urgent medical attention for dyspnea that developed for one week and thoracalgia that started on the present day. The patient was obtunded, and hyperhidrotic, with a blood pressure of 89/56 mmHg and a heart rate of 134 bpm. A meticulous examination revealed marked JVD at 45° (Fig. 1), as well as muffled heart sounds, classic signs of this condition.¹ Swift echocardiography subsequently confirmed the diagnosis of cardiac tamponade (Video 1, Fig. 2)



Figure 1: **A)** Jugular venous distention in a patient with cardiac tamponade; **B)** Absence of jugular venous distention 24 hours after drainage of the pericardial effusion.

¹Serviço de Medicina Interna, Unidade Local de Saúde Médio Ave, Unidade de Vila Nova de Famalicão, Vila Nova de Famalicão, Portugal

²Serviço de Cardiologia, Unidade Local de Saúde de Braga, Braga, Portugal

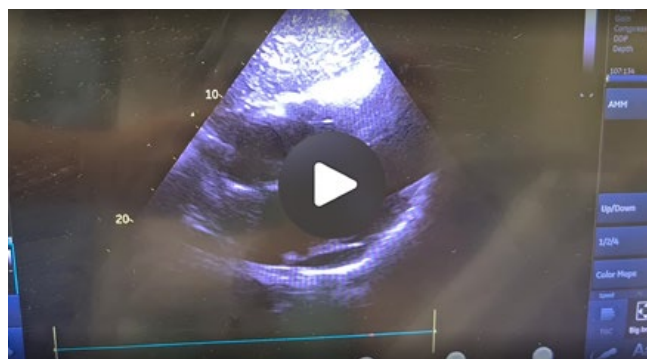
<https://doi.org/10.24950/rspmi.794>

by revealing the presence of pericardial effusion and compressed right cardiac chambers during diastole. The patient was promptly subjected to a pericardiocentesis, which drained 700 cc of serohemorrhagic fluid. During the procedure, the patient



Video 1: Cardiac tamponade

https://spmi-my.sharepoint.com/:v:/g/personal/ana_silva_spmi_pt/Ea7Df3cBl-A5lhZNzuk8mLXoB-QNWag-68e1nTP26H9PLng?e=GnpPkD.



Video 2: Post-pericardiocentesis

https://spmi-my.sharepoint.com/:v:/g/personal/ana_silva_spmi_pt/EW1CPuL-jaOIPrNzh6M0B-plB76JGFNC700xTgzj1SS-FmQ?e=Lk1Az0.

improved this hemodynamic profile, normalizing the arterial pressure as well as cardiac frequency.

This illustrates the main findings of cardiac tamponade, presenting an example of jugular venous distention with Fig. 1 A, a finding that results from compromised right ventricular filling, stemming from pericardial effusion-induced pressure on the heart chambers.^{1,2} Echocardiography played a crucial role in confirming the diagnosis by presenting both the pericardial effusion and demonstrating the collapsibility of the right ventricle during diastole, confirming the diagnosis of cardiac tamponade.

In summary, this case underscores the importance of recognizing clinical findings associated with cardiac tamponade, such as JVD and hypotension, and emphasizes the pivotal role of echocardiography in confirming the diagnosis. Timely pericardiocentesis intervention is indispensable for restoring cardiac function and ultimately enhancing patient outcomes.¹ ■

Declaração de Contribuição

PFM – Acompanhamento clínico, redação do manuscrito, pesquisa bibliográfica e aprovação final

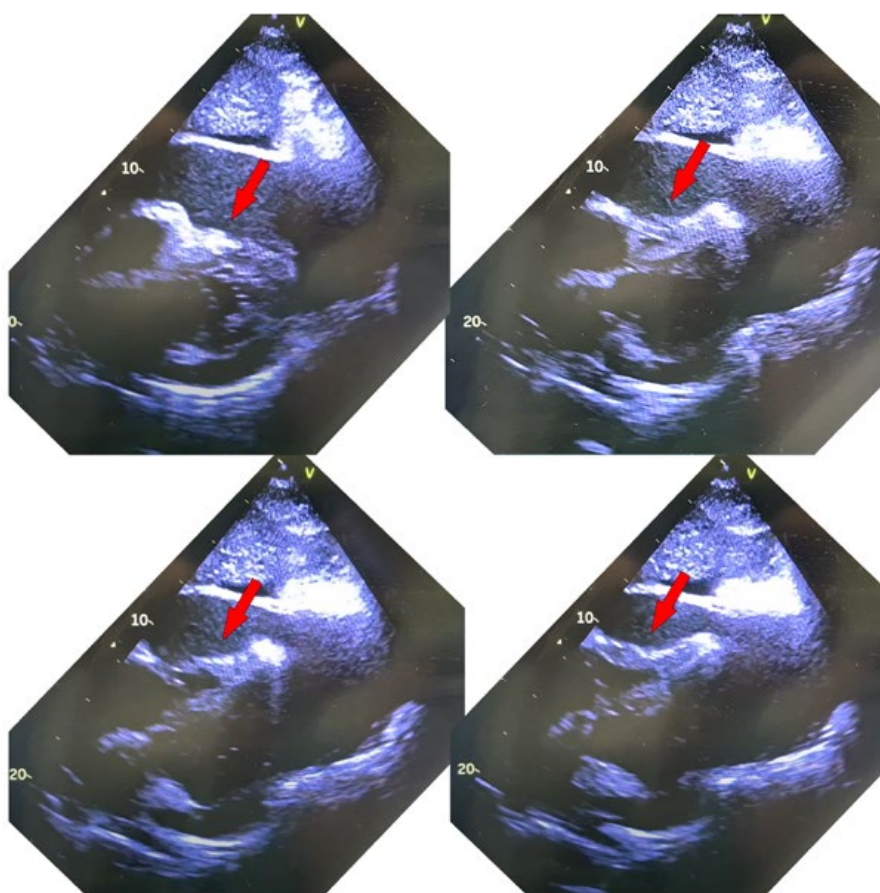


Figure 2: Echocardiogram showing evidence of a large volume circumferential pericardial effusion with compression of the right ventricle in diastole (cardiac tamponade), shown with red arrow.

FM – Acompanhamento clínico, pesquisa bibliográfica e revisão crítica

PMN - Acompanhamento clínico, pesquisa bibliográfica, revisão crítica e aprovação final

Todos os autores aprovaram a versão final a ser publicada.

Contributorship Statement

PFM - Clinical follow-up, manuscript writing, literature research and final approval

FM - Clinical follow-up, bibliographic research and critical review

PMN - Clinical follow-up, bibliographic research, critical review and final approval

All authors approved the final version of the article.

Responsabilidades Éticas

Conflitos de Interesse: Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.

Fontes de Financiamento: Não existiram fontes externas de financiamento para a realização deste artigo.

Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

Consentimento: Consentimento do doente para publicação obtido.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

Ethical Disclosures

Conflicts of interest: The authors have no conflicts of interest to declare.

Financing Support: This work has not received any contribution, grant or scholarship.

Confidentiality of Data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Patient Consent: Consent for publication was obtained.

Provenance and Peer Review: Not commissioned; externally peer reviewed.

© Autor (es) (ou seu (s) empregador (es)) e Revista SPMI 2024. Reutilização permitida de acordo com CC BY-NC 4.0. Nenhuma reutilização comercial.

© Author(s) (or their employer(s)) and SPMI Journal 2024. Re-use permitted under CC BY-NC 4.0 commercial re-use.

Correspondence / Correspondência:

Pedro Fernandes Moura - pedrofmoura.mi@gmail.com

Interno de Formação Específica de Medicina Interna, Unidade Local de Saúde Médio Ave, Unidade de Vila Nova de Famalicão, Vila Nova de Famalicão, Portugal

Rua Cupertino de Miranda, s/m, 4761-917 – Vila Nova de Famalicão

Recebido / Received: 2023/09/27

Aceite / Accepted: 2024/02/24

Publicado / Published: 2024/12/20

REFERÊNCIAS

1. Brian DH. Cardiac Tamponade. UpToDate [accessed Jan 2024] <https://www.uptodate.com/contents/cardiac-tamponade>
2. Jensen JK, Poulsen SH, Mølgaard H. Cardiac tamponade: a clinical challenge. E-J Cardiol Pract. 2017;15.