Open Journal of
Clinical & Medical
Case Reports

Volume 6 (2020)
Issue 13

ISSN: 2379-1039

Synchronous presentation of a hemorrhagic pericardial tamponade and venous thromboembolism as initial presentations for malignancy in a patient taking rivaroxaban for atrial fibrillation

Mohamed Hassan*; Nicola Trepte

***Corresponding Author: Mohamed Hassan**
Older People's Emergency Department, Norfolk and Norwich University Hospital, UK.
Email: aboalhassan8@yahoo.com

Abstract

The concurrent presentation of symptomatic hemorrhagic pericardial effusion (tamponade) and venous thromboembolism is uncommon and presents a therapeutic dilemma. Both conditions can be life-threatening and require opposing management strategies. Direct Oral Anticoagulants (DOACs) are used for many conditions where anticoagulation is needed such as non-valvular atrial fibrillation, Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE). These novel agents have become popular since they do not require monitoring of therapeutic levels and there is a lower risk of certain bleeding complications when compared to warfarin. However, the efficacy and side effect profile of these agents have not been widely studied in cancer patients. I present a rare case of a patient with a history of atrial fibrillation on Rivaroxaban who developed hemorrhagic pericardial tamponade and venous thromboembolism (DVT and multiple small PEs) as initial presentations for a hidden malignancy.

Keywords

Direct-acting oral anticoagulant; pericardial effusion; cardiac tamponade; Hemopericardium; cancer, malignancy; pulmonary embolism; venous thromboembolism; nonvalvular atrial fibrillation.

Introduction

Underlying or occult malignancy alone is an important risk factor, in some studies increasing risk of VTE more than fourfold [1]. Rivaroxaban is as effective and safe as enoxaparin for the prevention of recurrent VTE in patients with malignancy, and it is a potential option for patients with cancer and VTE [3]. In patients presenting with pericarditis or pericardial effusion without known malignancy, the likelihood of finding previously undiagnosed cancer in different publications typically ranges from 4% to 7% [2]. Thus, the development of pericardial effusion is a reasonably common consequence of malignancy, the recogni-

tion of which is crucial to facilitate treatment and avoidance of potentially fatal tamponade. Cardiac tamponade is an absolute indication for urgent pericardiocentesis, though uncorrected coagulopathy is a relative contraindication [4]. Concurrent presentation of both VTE and hemorrhagic pericardial effusion is a rare event that presents a tough clinical dilemma [5-7]. This case highlights a rare and difficult clinical dilemma concerning the development of both VTE and hemorrhagic pericardial tamponade as initial presentations for malignancy in a patient already anticoagulated with Rivaroxaban for atrial fibrillation.

Case Presentation

A 83 years old female referred to the emergency department via her general practitioner with symptoms of progressive shortness of breathing over the last couple of weeks. she was diagnosed as a lower respiratory tract infection and was given two courses of antibiotics with no obvious benefit. Medical history included atrial fibrillation on Rivaroxaban. Physical examination revealed raised Jugular Venous Pressure (JVP), positive Kussmaul's sign [9] and distant irregular heart sounds. She was investigated with a chest radiograph which demonstrated cardiomegaly, a 12-lead electrocardiogram showed atrial fibrillation, and a set of blood tests revealed normal inflammatory markers. Urgent bedside echocardiography confirmed massive pericardial effusion and cardiac tamponade which require urgent pericardiocentesis. 500 mls of bloody fluids was removed 48 hours after suspending Rivaroxaban. The patient felt immediate dramatic improvement, the patient started on heparin infusion following the successful paracentesis, then switched to Rivaroxaban on the next day. She was sent home in a clinically stable condition and cardiology outpatient follow up.

Investigations

Pericardial fluid macroscopic appearance showed 42 mls of heavily bloods stained fluid. Microscopy demonstrated: Bloodstained specimen which contains groups of pleomorphic vacuolated cells, arranged in balls and three-dimensional clusters. There are occasional background mesothelial cells. Immunohistochemistry has been performed on the clot specimen, which shows the atypical cells are positive for PAX8, WT-1, and CK7, and are negative for CK20, ER and GATA-3. The morphology and immunohistochemical pattern are in keeping with metastatic serous carcinoma from the gynecological tract, most probably of tubal origin. A CT chest, abdomen and pelvis demonstrated Widespread necrotic appearing lymphadenopathy in keeping with malignancy - no definite candidate primary is identified, although gynecological primary should be considered. Extensive pelvic deep vein thrombosis and small pulmonary emboli in the right lung.

Discussion

In the presence of pericardial tamponade, the safety of DOACS is not certain. In this case a decision on stopping Rivaroxaban was taken despite the presence of acute pulmonary emboli and deep venous thrombi, in order to facilitate the pericardiocentesis which is a lifesaving procedure. There are very few similar published cases. Thomas C, et al [5] and Han et al [8] describe a recent case of simultaneous hemorrhagic pericardial effusion and PE. Both cases differ by etiology which was uncertain in Thomas et al,

the author suggested that it might be secondary to serositis, and traumatic in Han et al. the patient was not initially on anticoagulation in both case reports. In Han et al's case, tamponade did not develop.

Learning points

- Symptoms of pericardial tamponade might be none specific.
- Being anticoagulated with DOAC does not rule out acute VTE especially in cancer patients.
- Pericardiocentesis must be done for cardiac tamponade regardless of the etiology or being on DOACS.
- No clear guidelines on how to tackle such a complex problem. However, the risks and benefits of anti-coagulation must be carefully weighed and continually revisited in cases of synchronous bleeding and clotting tendencies,
- Complicated cases of concurrent VTE and hemorrhagic pericardial effusion require multispecialty approach (cardiovascular medicine. Hematology, clinical pathology, …. etc.)

References

1. Heit JA, Silverstein MD, Mohr DN, et al. Risk factors for deep vein thrombosis and pulmonary embolism: a population-based case-control study. Arch Intern Med 2000; 160: 809–815.

2. Hsi DH, Krishnamurthy M, Ryan GF, Luo P, Woodlock TJ. Successful management of hemopericardium and cardiac tamponade secondary to occult malignancy and anticoagulation. Exp Clin Cardiol. 2010; 15: e33-35.

3. Jiali Xing, BS, Xiangbao Yin, MD, and Desheng Chen, BS. Rivaroxaban versus enoxaparin for the prevention of recurrent venous thromboembolism in patients with cancer Medicine (Baltimore). 2018; 97: e11384.

4. Sagrista-Sauleda J, Angel J, Permanyer-Miralda G, et al. Long term follow up of idiopathic chronic pericardial effusion. N Engl J Med. 1999; 341: 2054–2059.

5. Thomas C, et al. Pulmonary embolism with hemorrhagic pericardial effusion and tamponade: a clinical dilemma BMJ Case Rep. 2014.

6. Farge D, Debourdeau P, Beckers M, Baglin C, Bauersachs RM, Brenner B, et al. International clinical practice guidelines for the treatment and prophylaxis of venous thromboembolism in patients with cancer. J Thromb Haemost. 2013; 11: 56–70.

7. Mandala M, Falanga A, Roila F, Group EGW. Management of venous thromboembolism (VTE) in cancer patients: ESMO clinical practice guidelines. Ann Oncol. 2011; 22: 85–92.

8. Han JY, Seon HJ, Choi IS, et al. Simultaneously diagnosed pulmonary thromboembolism and hemopericardium in a man with thoracic spinal cord injury. J Spinal Cord Med. 2012; 35: 178–181.

9. Kussmaul sign is a paradoxical rise in jugular venous pressure (JVP) on inspiration or a failure in the appropriate fall of the JVP with inspiration. It can be seen in some forms of heart disease and is usually indicative of limited right ventricular filling due to right heart dysfunction.

Manuscript Information: Received: March 22, 2020; Accepted: August 24, 2020; Published: August 31, 2020

Authors Information: Mohamed Hassan*; Nicola Trepte
Older People's Emergency Department, Norfolk and Norwich University Hospital, UK.

Citation: Hassan M, Trepte N. Synchronous presentation of a hemorrhagic pericardial tamponade and venous thromboembolism as initial presentations for malignancy in a patient taking rivaroxaban for atrial fibrillation. Open J Clin Med Case Rep. 2020; 1689.

About the Journal: Open Journal of Clinical and Medical Case Reports is an international, open access, peer reviewed Journal focusing exclusively on case reports covering all areas of clinical & medical sciences.
Visit the journal website at www.jclinmedcasereports.com
For reprints and other information, contact info@jclinmedcasereports.com