J Thromb Thrombolysis
DOI 10.1007/s11239-012-0784-9

The untold story of Dabigatran etexilate: alveolar hemorrhage in an elderly patient with interstitial pulmonary fibrosis

Ahmad Husari · Atallah Beydoun · Amein Sheik Ammar · Joseph E. Maakaron · Ali Taher

Abstract We report an 85-year-old male, with history of interstitial pulmonary fibrosis (IPF), who was presented with progressive dyspnea, hypoxia, and anemia of 2 months duration. Six months before presentation, the patient was placed on Dabigatran etexilate (Dabigatran) (110 mg BID) for atrial fibrillation. His prior anemia workup included a negative upper endoscopy and colonoscopy. Bronchoscopy revealed copious amounts of bloody secretions. The bronchial tree was washed and Dabigatran was discontinued. The patient's medical condition improved and was subsequently discharged home. Our case illustrates the failure of current literature to predict the isolated bronchoalveolar bleed secondary to Dabigatran therapy.

Keywords · Dabigatran etexilate · Alveolar hemorrhage · Elderly patient · Interstitial pulmonary fibrosis

A. Husari · A. Beydoun · J. E. Maakaron
Department of Internal Medicine, American University of Beirut-Medical Center, P.O. Box 11-0236, Riad El Solh, Beirut 110 72020, Lebanon

A. Husari (✉) · A. Sheik Ammar
Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, American University of Beirut-Medical Center, P.O. Box 11-0236, Riad El Solh, Beirut 110 72020, Lebanon
e-mail: ah51@aub.edu.lb

A. Taher
Division of Oncology and Hematology, American University of Beirut-Medical Center, P.O. Box 11-0236, Riad El Solh, Beirut 110 72020, Lebanon

Introduction

Dabigatran etexilate (Dabigatran) is a novel oral thrombin inhibitor that is approved for reducing the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation (AF) [1]. There are growing concerns of potential associated side effects including higher incidences of dyspepsia, gastrointestinal bleeding, and the lack of an effective antidote [2]. Elderly patients are at a particularly increased risk due to frequent renal function impairment, low body weight, and drug interactions which cannot be detected with a routine coagulation test [3, 4]. We report an elderly patient who developed chronic and persistent bronchoalveolar hemorrhage which rapidly resolved after bronchoalveolar lavage and discontinuing Dabigatran therapy.

Case presentation

An 85-year-old white male was presented with worsening dyspnea and anemia of 2 months duration. The dyspnea was associated with whitish sputum and prior work up for his anemia was noted for a negative upper endoscopy and lower colonoscopy. The patient had a long-standing history of atrial fibrillation, and 6 months ago was placed on Dabigatran 110 mg twice per day. Pertinent negative findings include a serum creatinine of 1.0 mg/dL, creatinine clearance of 85 ml/min. Tests for bleeding tendencies were also negative with PT = 12.6 s, PTT = 25.5 s, and platelet count = 212 k. His current medications include: Furosemide, Spironolactone, Rosuvastatin, Esomeprazole, an ACE inhibitor, and enteric-coated aspirin (81 mg). On admission, the patient was in respiratory distress and his exam revealed bilateral crackles and diffuse scattered rhonchi. ABGs revealed severe hypoxia and noninvasive

Published online: 28 July 2012

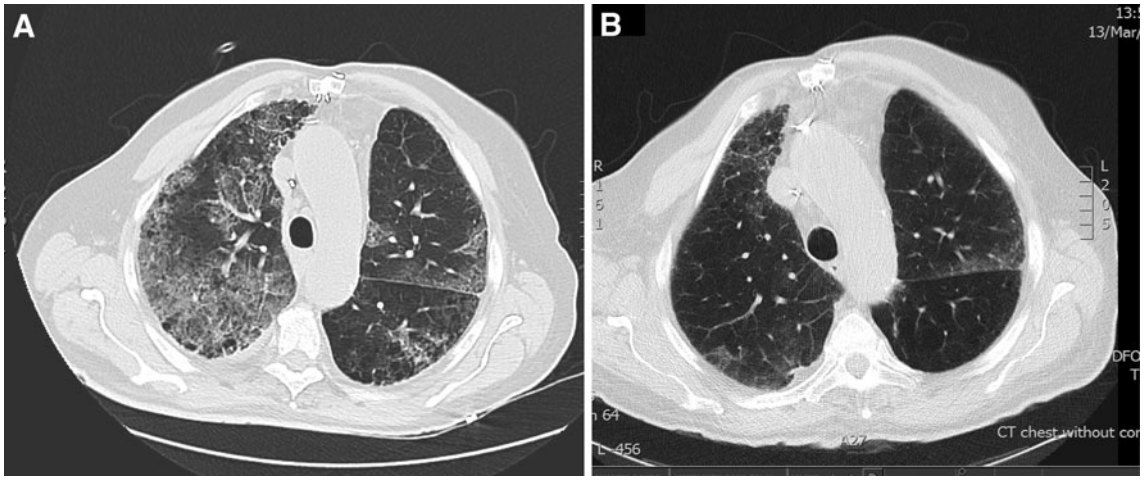

Fig. 1 Diffuse ground glass opacities and alveolar filling process involving both lungs noted on admission (Fig. 1a) and significant resolution is noted (Fig. 1b) after bronchoalveolar lavage and discontinuing Dabigatran

ventilation (NIV) was initiated. A CT scan of the chest demonstrated bilateral ground-glass opacities with no evidence of gross infiltrates or consolidation. Bronchoscopy was performed and revealed copious amounts of dark, melena-like, bloody secretions suggestive of chronic bleeding. The bronchial tree was thoroughly suctioned and washed with repeated aliquots of normal saline, and Dabigatran was discontinued. No other medical interventions such as fresh frozen plasma or platelet transfusions were prescribed to the patient. Twenty-four hours later, the patient's medical condition started to improve and he was taken off NIV in 48 h. One week later, oxygen supplement was discontinued, ABGs on room air revealed no hypoxemia and the patient's anemia improved (Hemoglobin increased from 8.8 to 10.5 mg/dl). Connective tissue disease and vasculitidis workup was negative. The patient was active, not underweight, and had normal creatinine clearance. A repeat CT scan of the chest revealed significant resolution of the ground glass opacities noted on admission. The patient was subsequently discharged home (Fig. 1).

Discussion

Harper et al. [4] reviewed the records of more than 7,000 elderly patients on Dabigatran and cautioned its use in patients with impaired renal function or low body weight. Unlike the known risks reported with the elderly, our patient had normal creatinine clearance, was active, and was not underweight. His risk factors are only his age and IPF noted on a previous CT of the chest. The current literature failed to predict the isolated bronchoalveolar hemorrhage discovered on bronchoscopy [2–4]. Discontinuing Dabigatran resulted in resolution of hypoxemia, an improvement in oxygen delivery, and resolution of the ground-glass opacities. A recent study, examining the role of anticoagulation as a therapeutic approach in IPF, did not report bleeding as a complication of anticoagulation. The study, however, was terminated early as the use of warfarin in patients with progressive IPF was associated with increased mortality when compared to placebo [5]. Physicians should be cautious with Dabigatran in patients with IPF and additional warning by the FDA may be warranted especially for elderly patients.

References

1. Lip GY, Tse HF (2007) Management of atrial fibrillation. Lancet 370(9587):604–618
2. Romualdi E, Rancan E, Siragusa S, Ageno W (2010) Managing bleeding complications in patients treated with the old and the new anticoagulants. Curr Pharm Des 16(31):3478–3482
3. Legrand M, Mateo J, Aribaud A, Ginisty S, Eftekhari P, Huy PT, Drouet L, Payen D (2011) The use of Dabigatran in elderly patients. Arch Intern Med 171:1285–1286
4. Harper P, Young L, Merriman E (2012) Bleeding risk with dabigatran in the frail elderly. N Engl J Med 366:864–866
5. Noth I, Anstrom KJ, Calvert SB, de Andrade J, Flaherty KR, Glazer C, et al. (2012). The idiopathic pulmonary fibrosis clinical research network (IPFnet). A placebo-controlled randomized trial of warfarin in idiopathic pulmonary fibrosis. Am J Respir Crit Care Med. [Epub ahead of print]