

Tranexamic acid related bilateral pulmonary emboli : A case Report

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Background

Tranexamic acid is a synthetic lysine derivate that exerts its antifibrinolytic effect by reversible blocking lysine binding sites on plasminogen preventing fibrin degradation. It is commonly used for the treatment of menorrhagia in women.

We present a case of suspected tranexamic acid-related bilateral pulmonary embolism in a healthy, active, middle-aged woman receiving tranexamic acid, with no other significant risk factors for thromboembolism.

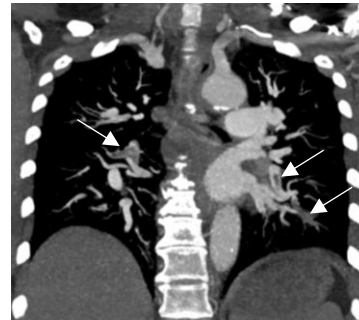
Case Presentation

A 45-year-old Asian woman, generally healthy with a background of hypertension, presented with a one-month history of menorrhagia, which led to a significant drop in haemoglobin (by 5g) and shortness of breath. She was started on tranexamic acid for the management of her menorrhagia. After four days of treatment, her shortness of breath worsened, prompting referral to the emergency department for further evaluation and management of symptomatic anaemia.

Upon review, her blood work showed mildly elevated D-dimer levels, and a pulmonary CT angiogram revealed small bilateral segmental pulmonary emboli. Treatment was not initiated immediately, as the patient was hemodynamically stable. However, her ongoing vaginal bleeding required a gynaecological assessment to evaluate the bleeding risk before proceeding with anticoagulation therapy.

Fig.1.

Multifocal filling defects within the pulmonary arteries are seen in both lungs on CT angiogram.



A transvaginal ultrasound (TVUSS) revealed bilateral small endometriomas and a left hematosalpinx. These findings did not contraindicate anticoagulation therapy. The patient was initiated on a therapeutic dose of enoxaparin, chosen for its short half-life, and was later reviewed by gynecology following a pelvic MRI, which demonstrated multiple intramural and subserosal fibroids.

Subsequently, the patient was transitioned to a direct oral anticoagulant (DOAC) and managed gynecologically with an intrauterine device (IUD).

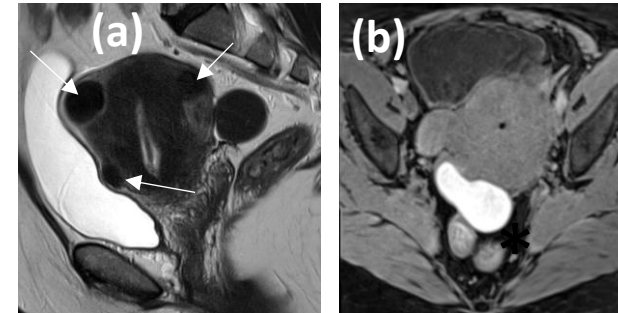
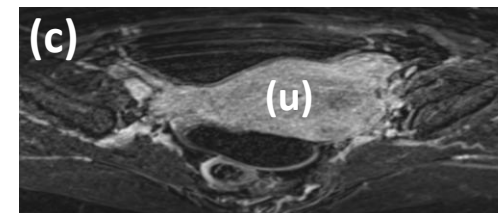


Fig.2. Multiple hypointense intramural / subserosal fibroids (white arrows) are seen on sagittal T2WI (a). Please note an endometrioma posterior to uterus (asterisk) with high signal for blood on FS T1 VIBE image (b). Mild heterogeneous enhancement of the myometrium and fibroids (u) are identifiable on post-contrast T1 VIBE dynamic sequences (c).



This case underscores the diagnostic and therapeutic complexities when symptoms overlap between specialties. The patient's only symptom of pulmonary embolism—shortness of breath—was initially attributed to severe anemia. A routine D-dimer test performed in the emergency department ultimately facilitated the diagnosis of pulmonary embolism.

Conclusion

This case highlights the potential increased risk of thromboembolism associated with tranexamic acid use, which should prompt diagnostic awareness, even in patients without other obvious risk factors. Additionally, when VTE does occur in these patients, it presents a dual management challenge, as the coexistence of prothrombotic complications and PV bleeding creates a complex therapeutic dilemma.