Pancreatic Cancer: Leading to Failure of Rivaroxaban as an Anticoagulant

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Introduction
- Vascular Thromboembolism (VTE) is seen with hypercoagulable state and it can be a reason of significant morbidity and mortality.
- Cancer is considered as one of the most common causes of hypercoagulability and developing VTE.
- Since novel oral anticoagulants (NOACs) have been introduced in market for VTE prophylaxis and treatment, their use have been increased significantly as they are easy to use without episodic monitoring.
- Rivaroxaban is one of the commonly used NOACs and some of the studies have shown its good efficacy for VTE.

Case Report
- 71 year old female with PMH of persistent A-fib on Rivaroxaban, pulmonary hypertension, HTN, DM-2 presented to the ED with severe pain in both feet.
- On physical examination, they seemed ischemic with splotchy cyanotic/pallor discoloration on multiple toes of both feet.
- Patient was already on 20 mg PO daily dose of Rivaroxaban for A-fib which is also prophylactic dose for VTE.
- Her fibrinogen and D-dimer were elevated at 185 and >5000 respectively.
- Vascular surgery was consulted and they put the patient on heparin drip. CTA Aorta with run off was ordered to find out source of VTE.
- Unfortunately, CT report showed pancreatic head cancer with metastasis to liver, adrenals and lumber vertebrae which was definitively diagnosed as “Primary Pancreatic Adenocarcinoma” on biopsy.
- Oncology was consulted and they recommended higher dose of Rivaroxaban 15 mg PO BID on discharge. Still patient came back to ED with worsening of symptoms and pain in both feet due to VTE exacerbation.
- Patient was then switched to fondaparinux and it helped her from keep getting recurrent VTE exacerbation.

Results
- Traditionally, warfarin and enoxaparin have been used as first-line agents for VTE treatment.
- Their efficacy have been proven with acceptable risks of bleeding. As enoxaparin needs to be injected and warfarin requires regular monitoring of INR, patients were not compliant with using them.
- Conversely, NOACs can provide innocuous and more compliant alternative to warfarin and enoxaparin.
- Rivaroxaban has been most commonly used NOAC for this purpose and some of the studies bolsters its efficacy for VTE.
- Nonetheless, few case reports are out that don’t support Rivaroxaban’s effectiveness as a prophylactic agent for preventing VTE.

Conclusion
- We propose that it still requires more post-marketing research in assessing Rivaroxaban’s real efficacy/effectiveness as a prophylactic agent for VTE in Pancreatic as well as other cancers.

References