

Rivaroxaban-associated Delayed Spontaneous Periprosthetic Hematoma

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The authors present a case of spontaneous delayed periprosthetic breast haematoma in a woman taking Rivaroxaban. (Plast Reconstr Surg Glob Open 2015;3:e421; doi: 10.1097/GOX.0000000000000381; Published online 17 June 2015.)

A 69-year-old woman presented with the history of a sudden swelling of her right breast over the preceding 10 days; she denied any history of trauma.

This occurred on a background of having a right latissimus dorsi breast reconstruction with implant insertion 10 years earlier for breast cancer. She was later diagnosed with left breast cancer and underwent the same reconstruction on the left side one year later. She was noted to be taking rivaroxaban for recurrent deep vein thrombosis and atrial fibrillation. She was not taking any other medications that would predispose her to haemorrhage. Examination of her reconstructed breasts revealed asymmetry with a tight swollen right breast (Fig. 1). Ultrasound showed an extensively septated collection superficial to the capsule of the implant in keeping with a significant-sized hematoma.

After consultation with hematology and cardiology teams, it was recommended that evacuation of the hematoma be delayed until anticoagulation was reversed, which was expected to be approximately 3 days after cessation of Rivaroxaban. She underwent surgery 3 days after presentation and had a 650 ml hematoma evacuated. At the time of surgery, her implant was replaced with another of the same size.

She recovered from the procedure uneventfully and was discharged 3 days after her surgery.

This complication was reported to the Therapeutic Goods Administration as a suspected adverse reaction to a medication.

In collaboration with her hematologist and cardiologist, it was decided that the patient would not recommence rivaroxaban, given this adverse event. She was recommenced on warfarin with enoxaparin used for initial bridging. At her last appointment at 2 months postoperatively, she was feeling well and had no evidence of any further bleeding.

Delayed hematomas associated with breast prostheses are a rare event, and the exact mechanism of their development is often not fully understood.^{1,2} The increasing use of oral anticoagulant therapy may be associated with increased risk of this phenomenon. Rivaroxaban has been linked with case reports of spontaneous rectus sheath hematomas³ and spontaneous epidural hematomas,⁴ but not previously with hematoma following reconstructive surgery.

Rivaroxaban is an orally active inhibitor of factor Xa that is being used with increasing frequency for venous thromboembolism treatment and prevention and stroke prophylaxis in those with atrial fibrillation.⁵ Many patients and general practitioners prefer it as it does not require routine monitoring. This contrasts with the classical vitamin K antagonists (warfarin) that require regular blood tests for International Normalized Ratio monitoring.

The common side effects of rivaroxaban include nausea, diarrhea, and constipation,⁶ less common are the increased risks of bleeding. Rivaroxaban presents a challenge surgically as it cannot be easily

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Fig. 1. Preoperative photographs show the enlargement and tightness of the right reconstructed breast compared with the left reconstructed breast.

reversed, and its effects can last for up to 3 days after the last dose. It is important that adverse bleeding events are reported and discussed in the literature, so that patients can be given accurate information about the pros and cons of various anticoagulant therapies before starting treatment.

Delayed periprosthetic hematomas are an unusual complication. The increasing use of oral anticoagulants such as rivaroxaban may cause these complications to become more common. This case is the first to describe spontaneous breast hematoma post reconstruction with a potential association to the oral anticoagulant rivaroxaban. It is important that patients are aware of this potential complication before initiating oral anticoagulants.

SUMMARY

We present the case of a 69-year-old woman who presented with a spontaneous hematoma 10 years post latissimus dorsi breast reconstruction with implant insertion. She had changed her oral anticoagulant from warfarin to rivaroxaban approximately 1 year earlier. On examination, her reconstructed right breast was twice the size of the left side and firm. The increasing use of oral anticoagulant therapy may be associated with increased risk of this phenomenon. Rivaroxaban has been linked with case

reports of spontaneous rectus sheath hematomas³ and even spontaneous epidural hematomas.⁴ This case reports a potential complication of rivaroxaban therapy, a spontaneous periprosthetic hematoma in a woman 10 years post reconstructive breast surgery.

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