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### Case Time! VTE Prophylaxis Post Hip Replacement

#### Announcer:

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#### Dr. Tapson:

Hi, folks. Vic Tapson here from Cedar-Sinai Medical Center. We're going to talk about a hip replacement case today. It's a 76-year-old man status post left total hip for severe arthritis, had a CABG 4 years ago, poor mobility. VTE prophylaxis plan was aspirin once a day for 30 days for his total hip prophylaxis. So 2 weeks after surgery, has some swelling of his calf. Next morning, dyspnea. Fortunately, he gets to the ED; they figure out what's going on right away. CT scan is performed, he's got PE and got some residual DVT.

There's a small pulmonary embolism, non-compressible popliteal veins there. So rivaroxaban is initiated, 15 mg twice daily, for proven VTE. He'll get this for 3 weeks followed by 20 once a day with food. At 6 months he gained 35 lbs. BMI was up. He's sitting around a lot. He gets a repeat ultrasound. I always do this before I consider stopping anticoagulation. And he's got poor vein recanalization and chronic thrombus. So we can't really stop his anticoagulation right now. What we can do is decrease the dose. We drop the dose to 10 mg once a day without food and continue this, and I'll come back to why we did that.

So here's some questions. What are the supporting data for the treatment plan? Why did this event occur? How should patients be prophylaxed for VTE after total hip? Key question. So bottom line is, when you have acute PE, the recurrence rate is higher if you're idiopathic, but it's still high if you're provoked. If you have a provoked VTE like this gentleman did, your recurrence rate is higher than in someone who never had one. So just think about should you consider continuing anticoagulation? And in this case, another Prandoni study, if you've got residual thrombosis at 3 to 6 months, your risk of recurrence is higher. So in this case, we decided he's not moving around, he's gained weight, he's got residual clot, we're going to continue the anticoagulation, but we can drop the dose based on the EINSTEIN CHOICE study. This study randomized VTE patients to continue anticoagulation after 6 to 12 months, either 20 once a day, 10 once a day, or rivaroxaban, or aspirin. And bottom line was, comparing aspirin with 10 of rivaroxaban, much lower recurrence rate with rivaroxaban, and about the same major bleed rate, which is pretty impressive here. So good data to continue anticoagulation safely and effectively.

Why'd this VTE event occur? He was compliant with his aspirin. Let's quickly look at the prophylaxis literature for total hip. And we're doing a lot more total hips nowadays; that's the bottom line here. Death rate's very low. Orthopedic surgeons are very good at this. But we still have to prophylax. Risk of thrombosis is higher even if you're prophylaxed if you have certain additional risk factors: if your age is greater than 75, poor ambulation, obesity, cardiovascular disease. Our patient has all of these factors. So again, I would not go with aspirin in this patient. I would have gone with a DOAC right off the bat. Many ortho guys use aspirin nowadays. I think it makes sense in certain cases; I'd make sure they're very low risk.

So we've got a little data – old data here on rivaroxaban. Extended duration rivaroxaban versus short-term enoxaparin for prevention of VTE after total hip, a double-blind randomized trial, and we found that rivaroxaban was significantly more effective given extended

duration than short-term enoxaparin. So good data for the DOACs and rivaroxaban in total hip and knee prevention.

Another study by David Anderson, here. Aspirin or rivaroxaban. What David did was – and his colleagues – they took patients undergoing total hip or total knee and they randomized these cases to once-daily oral rivaroxaban until post-op day 5. Then they were randomized to continue rivaroxaban or switch to aspirin for additional 9 days for knee or 30 days for hip and followed for 90 days. So either 5 days up front followed by aspirin, switching to aspirin, or continue rivaroxaban. Bottom line here, 5 days of rivaroxaban prophylaxis followed by aspirin was not different than continuing rivaroxaban for the whole time, the whole duration of prophylaxis. So use the DOAC up front, use the rivaroxaban up front, then followed by aspirin may be a safer way to go.

And bottom line here, and my last slide here is, timing of VTE prophylaxis. Generally, you start the anticoagulant 6 to 12 hours or more after surgery if the patient can eat. If they can't, use low-molecular-weight heparin until they can eat. For total hip, extend prophylaxis for 35 days. For most patients, the same agent is used for the same 35-day course; you can use rivaroxaban. I mentioned the data suggesting low-risk patients may be switching to aspirin. Low-risk cases of those, no other risk factors for VTE, no other indications for long-term anticoagulation and so on. So if the patient's low risk, you got a better shot of just continuing aspirin in those folks, but I'd have a very low threshold, use a DOAC. Very good data for the DOACs nowadays for total hip and total knee replacement. Make sure you do the correct duration.

Thanks very much, folks. That's a 5-minute blurb on prophylaxis and total hip and how to treat subsequently.

Thank you.

**Announcer:**

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