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EMBOLIZATION

Harnessing the Clinical and Economic Power of Pushable Coils

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Dr. Trerotola: How do you feel about pushable versus detachable coils?

Dr. Brown: I use pushable coils basically as much as I can. I reserve detachables for a set situation when I'm worried that a pushable coil might prolapse back into the main artery.

Dr. Matsumoto: I reserve detachable coils for situations like Dr. Brown mentioned but also when I'm worried about them flying somewhere, like in a pulmonary arteriovenous malformation blowing through the big nidus. That's always nerve-wracking. I prefer to use pushable coils whenever possible and even in the case of a safe situation and location, I will inject them so I don't have to use a pusher wire.

Dr. Salem: I use mostly pushable coils, but I might use a detachable if I need explicit position of the coil (eg, for a gastroduodenal or a right gastric in the internal oncology space or for tumor redistribution). However, in general, I use pushables.

Dr. White: I think it depends a lot on location and vessel tortuosity. If there's a lot of tortuosity, a detachable coil may have a hard time navigating the turns. In that case, I may use a pushable coil. If I need exact deployment, I might use a detachable rather than a pushable. For the most part, pushables are my go-to coils because of their ease of use, cost, and variety of sizes.

Dr. Trerotola: When you use detachable coils, what percentage of the time do you actually reposition them?

Dr. Brown: I reposition them infrequently. To be honest, when I make the decision to use them, I usually end up putting two in rather than one; sometimes, I wonder if I could have gotten away with another pushable before making that decision.

Dr. Matsumoto: Probably < 10%. I find that I have to reposition a coil when it starts to migrate through a fistula or if the stability of my catheter position is tenuous. I also use detachable coils when I'm trying to create a coil nest within an aneurysm with a relatively wide neck, so if the coil begins to prolapse out of the aneurysm into the parent artery, I can reposition it.

Dr. Salem: Very rarely; < 5%, if ever, to be honest with you. Retracting the coil may be associated with losing the access you worked hard to get. You have to balance taking what you've gotten compared to repositioning and potentially losing that access.

Dr. White: I would agree with < 5%. When I need to reposition, I will retract it and get it to break in a different way.

Dr. Trerotola: How much do you think that fiber matters on coils?

Dr. White: I think fibers make a big difference. Even if I'm using a detachable coil for bleeding, for example, I know that I'll need to use a pushable because it has more fibers and will cause vessel occlusion. The fibered detachable coils don't have as many fibers as the Nester and Tornado coils (Cook Medical). If you do use a detachable, it becomes much more necessary to use more coils because you need to tightly pack them in. I think you need to have fiber, unless you have the ability to pack it in tightly, which is often not the case in a bleeding situation.

Dr. Salem: I speculate that for a larger vessel, it's probably helpful to a certain extent. I don't think it matters for smaller vessels because you're physically occluding the lumen but also hopefully distorting that vessel itself and injuring it, thereby causing thrombosis. I think there are multiple ways you get that occlusion in the small vessels. In a larger vessel, I prefer fiber.

Dr. Matsumoto: I prefer fibered coils because they stimulate an inflammatory reaction and cellular ingrowth and are less likely to recanalize, although they're a little bit more likely to compact over time. I think fiber does help for durability and reducing the incidence of recanalization through the coil.

Dr. Brown: I prefer fibered coils. Looking at when we did gastroduodenal artery embolization, before Yttrium-90 and before Nester was out, there was a case where I used about 20 to 25 pushable metal coils. When Nesters came on the market the first time, I used them. I did two cases and used a total of 12 coils, and we put them in the inventory the next day.

Dr. Trerotola: Are you under pressure to reduce the costs of the disposables you use?

Dr. White: Supply chain is putting more and more pressure on us to decrease our overall cost.

Dr. Salem: As Chair of our Value Added Committee, I have to say yes. On a system level, we certainly look at standardization and getting the best pricing with vendors.

Dr. Matsumoto: Yes, absolutely. Margins are shrinking, we're all being asked to eliminate waste, and value-based purchasing and care are here. In fact, as Chair, I try to

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reduce costs and overhead for device inventory, with hopes that we'll be provided with extra nurses, technical staff, or maybe another ultrasound machine. It's critically important as the margins shrink that we are aligned with reducing the costs related to our supplies. It's ultimately one bucket: You spend more on supplies, and the system has less revenue to pay for staff.

Dr. Brown: We haven't gotten to the granularity of case by case and people asking me why I used what I did, but there's definitely a move to cut budgets and make supplies cheaper.

Dr. Trerotola: Are you aware that sometimes the procedures we do actually exceed the reimbursement of the procedure?

Dr. Brown: This situation can absolutely occur. This event is especially true if a large number of detachable coils were used when pushables were feasible.

Dr. Matsumoto: Absolutely. All the people on this panel work in academic medical centers. It's oftentimes hard for us to exactly track our costs, what our margins are, and what we lose or make per procedure. If you're in an office-based lab or in a practice and someone says, "I'm going to give you a bundled payment for this procedure," you will surely start doing the math and figuring out how to trim your costs to increase your margin. Those of us on the panel have been lucky in that we've been practicing in academic medical centers, so we get to play around sometimes with newer and more expensive tools. We need to change our behavior and start assuming accountability for the overhead and costs associated with a procedure, including the devices being used.

Dr. White: I think about the cost of coils, and I even know how much each detachable coil on my shelf costs. If I need to use one of the expensive ones that we stock here, I make certain its use is justified. The most important thing is to get the patient what they need. If I have to exceed cost, then that's fine; but, I certainly think about it twice if I have to pull the really expensive ones off the shelf.

Dr. Trerotola: If I could give you a sheet of paper at the end of each case that showed how much you spent on a case, broken down by the devices, would that change your behavior?

Dr. White: Absolutely.

Dr. Salem: Yes.

Dr. Matsumoto: Sometimes.

Dr. Brown: Most of the time, yes. ■

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