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Commentary: If it looks like a duct and it cracks like a duct, it most likely is a duct

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In this issue of the *Journal*, Divekar and Sebastian¹ describe a technique of arch repair in a rare variant of coarctation of the aorta with persistent fifth aortic arch with both the fourth and fifth aortic arches on the same side of the trachea. They found it useful to incorporate the tissue of the persistent fifth aortic arch in the repair to minimize the size of the needed patch material. They claim that even though the fifth aortic arch was prostaglandin-sensitive in their case, its use was still acceptable because it was “not ductal tissue.”

This type of arch repair would not be my first choice, given that it is quite simple to do either extended end-to-end or arch advancement in this setting, which eliminates the use of any foreign material and has well-documented excellent outcomes.^{2,3} Nonetheless, the method described by Divekar and Sebastian is an acceptable technique. I do disagree with the authors' suggestion that incorporating prostaglandin-sensitive tissue that does not look like duct is acceptable. Their claim has 2 logical flows. First, the fact that the infant responded to prostaglandin with improved lower limb pulses does not mean that the entire persistent fifth aortic arch is prostaglandin-sensitive. It may be that ductal tissue extends in to the periductal aortic wall in the fourth or fifth arch or even the descending aorta. Second, without histological testing, there is no proof that the retained issue is or is not ductal tissue and/or prostaglandin-sensitive. In

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Artist rendition of the duck automaton by the French inventor Jacques de Vaucanson in the 1730s. (Original artwork by Tamara Al-Radi.)

CENTRAL MESSAGE

Resection of all ductal tissue during aortic arch repair is a time-tested principle of congenital cardiac surgery. The assumption that the persistent fifth aortic arch that does not look like ductal tissue is prostaglandin-sensitive is unfounded.

fact, ductal tissue and prostaglandin sensitivity are probably necessarily coexistent properties.

As the authors suggest, it is quite cumbersome to perform histological tests during aortic arch surgery involving complex, time-sensitive perfusion techniques. This may be a case of overthinking a problem. I would stick to the age-old so-called “duck test”: if it looks like a duck, walks like a duck, and quacks like a duck, it most likely is a duck! In our case, if it looks like a duct and cracks like a duct (when handled by forceps), it most likely is a duct and should be cut out. Pun intended in this case!

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