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MISUSE OF THE TERM “SUBCLAVIAN ACCESS”

To the Editor:

In a recent issue of the *Journal*, there was an article by Ramlawi and colleagues¹ entitled, “Direct aortic and subclavian access for transcatheter aortic valve replacement: Decision making and technique.” I was enthusiastic to read the article because the title potentially indicated a description of a novel access for transarterial aortic valve implantation through direct puncture for access of the subclavian artery. I was a bit disturbed to realize that Ramlawi and colleagues¹ do not actually use or expose the subclavian artery, but in fact the axillary artery. Per anatomic definition, the subclavian artery extends to the lateral border of the first rib, where it becomes the axillary artery, which in turn becomes the brachial artery after passing the lower margin of the major teres muscle. Both from their figure and the description (incision in the deltopectoral groove), it is obvious that Ramlawi and colleagues¹ use the axillary artery as access site and not the subclavian artery. They depict the same approach as vascular surgeons use when performing axillofemoral bypass grafting.² The usual access to the subclavian artery is by a supraclavicular incision, as used in deviation surgery before implantation of endovascular aortic arch grafts.³ The message is that we should be accurate in the use of medical terms

when reporting on anatomic structures with precisely defined names.

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Reply to the Editor:

We appreciate Almdahl's contribution. His letter describes concern about arterial access nomenclature, defining subclavian artery access as supraclavicular and stating that our approach, which is infraclavicular, is axillary rather than subclavian.

From an anatomic standpoint, the subclavian, axillary, and brachial arteries represent a continuum starting from the point of emergence of the subclavian artery in the chest and extending to the terminal branching of the brachial artery in the antecubital fossa. Three anatomic territories are limited by the inferior border of the first rib and that of the teres major muscle. Further divisions into thirds of the subclavian and axillary arteries are defined relative to the scalenus anterior and the pectoralis minor muscles, each passing anterior to the second portion of the respective artery of interest.

The subclavian artery can in fact be accessed through either a

supraclavicular or an infraclavicular approach. With the latter approach, the infraclavicular portion of the subclavian artery is accessed through an incision in the Mohrenheim fossa, through the pectoralis major fibers. The deltopectoral fascia is accessed cranial and medial to the pectoralis minor muscle, exposing the area of the vessel between the lateral border of the scalenus anterior and the medial border of the pectoralis minor. This fully exposes the third part of the subclavian artery, transitioning into the first part of the axillary artery. A clear distinction between these zones bears little importance for the procedural technique, and individual surgeons are encouraged to choose the puncture point with which they are most comfortable.

We described our technique as an infraclavicular yet still a distal subclavian puncture, and this has been similarly described by a number of other authors.¹⁻⁴ This same infraclavicular approach has also been described for subclavian access for balloon pump insertion.⁵ Almdahl's point is very well taken. Axillary access also describes how some surgeons would opt to access the vessel. For future use, we believe that the most anatomically descriptive nomenclature for the infraclavicular approach would be the term *subclavian/axillary access*, as described in a few reports.^{6,7}

We again thank Almdahl for his enriching contribution.

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