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Safety and Effectiveness of Percutaneous Axillary Artery Access for Complex Aortic Interventions

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Abstract Body:
Objective(s): To evaluate the safety and effectiveness of pre-close percutaneous axillary artery access in patients requiring upper extremity large sheath access during complex aortic interventions. Method: Between October, 2017 and April, 2018 seventeen patients undergoing endovascular thoracoabdominal aortic artery aneurysm (TAAA) repair or visceral artery interventions had percutaneous axillary artery access with a 12-French sheath using off-label pre-close technique with PerClose Proglide (Abbott Vascular, Santa Clara, CA) suture-mediated closure system. Percutaneous access to the 3rd portion of the axillary artery was obtained under ultrasound guidance at the lateral border of the pectoralis minor muscle. Two PerClose devices were deployed prior to introducing a 12F sheath. Completion angiography was performed to assess technical success, which was defined as successful arterial closure without evidence of persistent hemorrhage or axillary artery stenosis or occlusion requiring intervention. Results: Technical success was achieved in 16/17 patients (94%). One patient required endovascular
covered stent placement during the index operation to control persistent access site bleeding. 2/17 patients (12%) suffered access-related complications. Two patients experienced transient ipsilateral upper extremity paresthesias without motor weakness. There was no incidence of conversion to open repair of the axillary artery and on follow-up CT scan imaging no access site complications (stenosis, occlusion, or dissection) were observed. **Conclusions:** Percutaneous axillary artery access using PerClose Proglide devices for hemostasis can be used to provide upper extremity arterial access during complex aortic interventions with high rates of technical success and safety. Accessing the lateral axillary artery under ultrasound guidance provides a preferred target where pressure may be applied to assist in achieving hemostasis. Overall complication rates are low, however, neurologic complications in the form of ipsilateral paresthesias can occur.

**Author Disclosure Block:**

**C.J. Agrusa:** None. **S.H. Ellozy:** Consulting Fee; Member of the speaker's bureau for W.L. Gore. **D.B. Schneider:** Consulting Fee; Abbott - consulting and advisory board; Cook - contracted research; WL Gore - consulting advisory board, contracted research; Medtronic - advisory board; Endologix - contracted research.