Starting from January 2001, we have established a structured program approved by the research ethics board of our academic Institution.² After more than a decade of experience,³⁻⁵ we believe that a surgeon should be awarded privileges in performing a regular number of such procedures by the institution administrators. We suggest that proficiency in awake thoracic surgery be certified and listed as a credential in submitting applications for surgical positions. Certification in awake surgery should be also given to operating room staff, including dedicated thoracic anesthesiologists, scrub nurses, and technicians. Commitment to maintain the same team for at least 40 procedures a year should be also provided.

It is nice for us to read favorable and more frequent studies about this awake anesthesia pattern. We therefore encourage thoracic surgeons to perform these procedures and submit their statistics to an institutional database, thus providing an excellent tool for evidence-based surgery. Those educational centers where this modern program is adopted should establish cooperative networks with each other and should accurately popularize the benefits of the treatment among physicians and patients. In addition, such educational tools as dry and wet labs, operating room simulations and lecture series should form an active part of this program. Finally, to conduct a successful and safe awake thoracic operation, the surgeon must be aware of both short- and long-term outcomes and must be updated with the latest advances in this field.

In the end, we are firmly convinced that this field of surgery is ripe for further developments.

Tommaso Claudio Mineo, MD
Vincenzo Ambrogi, MD, PhD
Department of Thoracic Surgery
Policlinico Tor Vergata
University Tor Vergata of Rome
Rome, Italy

References

1. Noda M, Okada Y, Maeda S, Sado T, Sakurada A, Hoshikawa Y, et al. Is there a benefit of awake thoracoscopic surgery in patients with secondary spontaneous pneumothorax? *J Thorac Cardiovasc Surg.* 2012;143:613-6.
2. Mineo TC. Epidural anesthesia in awake thoracic surgery. *Eur J Cardiothorac Surg.* 2007;32:13-9.
3. Mineo TC, Ambrogi V. Efficacy of awake thoracic surgery. *J Thorac Cardiovasc Surg.* 2012;143:249-50.
4. Vanni G, Tacconi F, Sellitri F, Ambrogi V, Mineo TC, Pompeo E. Impact of awake videothoracoscopic surgery on postoperative lymphocyte responses. *Ann Thorac Surg.* 2010;90:973-8.
5. Tacconi F, Pompeo E, Sellitri F, Mineo TC. Surgical stress hormones response is reduced after awake videothoracoscopy. *Interact Cardiovasc Thorac Surg.* 2010;10:666-71.

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HEMOSTATIC MANAGEMENT IN COMPLEX AORTIC SURGERY: A ROLE FOR MULTIPLE ELECTRODE AGGREGOMETRY AND MODIFIED ROTATIONAL THROMBOELASTOMETRY To the Editor:

We read with a great interest the recently published retrospective propensity-matched analysis by Goksedef and colleagues,¹ who matched 58 cardiac surgical patients in a recombinant activated factor VII (rFVIIa)-treated group (n = 29) and a control group (n = 29). Patients were compared with respect to reexploration, mortality, bleeding-related events, use of blood and blood products, duration of intensive care unit stay, duration of hospitalization, and thrombotic complications.¹ We agree with the statement of Goksedef and colleagues¹ that strategies to prevent coagulopathic bleeding are essential for the successful management of patients undergoing complex aortic operations. We do, however, have a few comments and suggestions for hemostatic management in such complex cases.

In our opinion, data regarding preoperative antiplatelet therapy management are lacking. We are interested to know whether matched

patients were preoperatively exposed to antiplatelet therapy (eg, aspirin). Was the proportion of patients exposed to antiplatelet therapy different among the matched groups? There is some evidence that certain patients have an accentuated response to the usual doses of preoperative aspirin that may result in increased perioperative blood loss.² The use of suitable point-of-care platelet function analyzers thus seems to be reasonable in this field. Such an approach in the preoperative phase can discriminate patients with accentuated platelet inhibition and allow the possibility of early discontinuation of antiplatelet drugs before surgery for patients with intensive platelet inhibition.

Furthermore, the results of the study by Goksedef and colleagues¹ are not in line with recently published results by Chapman and coworkers,³ who also compared cardiac surgical patient outcomes with respect to rFVIIa administration. In the study by Chapman and coworkers,³ a group of patients treated with rFVIIa did have significantly higher rate of reoperation for bleeding, a 2-fold increase in the use of blood products, and more frequent pulmonary complications. In addition to this, Hacquard and associates⁴ reported that 20% of patients who received rFVIIa continued to bleed severely despite the rFVIIa therapy.

In our opinion, rFVIIa represents a valuable therapeutic option in cases of intractable bleeding; however, it should be administered after other useful treatment modalities have been exhausted. For example, Spiess and coworkers⁵ reported that thromboelastographically guided hemostatic management significantly reduced both overall transfusion and mediastinal reexploration for excessive bleeding. In addition, the preliminary results of our research project (under clinicaltrials.gov identifier NCT01281397; data not

published, manuscript in preparation) showed modified rotational thromboelastometry and multiple electrode aggregometry results as predictors of excessive bleeding after cardiac surgical procedures. Preoperative platelet function assessment and intraoperative hemostatic property optimization guided by thromboelastometry can reduce the tendency toward excessive bleeding, leading to diminished use of rFVIIa with even better efficiency after functional hemostatic properties optimization before rFVIIa administration. It is noteworthy that concomitant use of multiple-electrode aggregometry and modified rotational thromboelastometry can help to discriminate excessive bleeding as a surgical or a coagulopathic bleeding. Any rFVIIa administration should follow previously mentioned preoperative and intraoperative hemostatic optimization measures determined from suitable bedside hemostatic monitoring devices with a short time frame from blood sampling to getting results. In our experience, such an algorithm can help in reducing both chest tube output and blood product transfusion requirements, with only sporadic need for rFVIIa administration.

We congratulate Goksedef and colleagues¹ on their elegant and timely research.

Mate Petricevic, MD^a

Bojan Biocina, MD, PhD^a

Davor Milicic, MD, PhD^b

^aDepartment of Cardiac Surgery

^bDepartment of Cardiovascular

Diseases

University of Zagreb School of

Medicine

University Hospital Center Zagreb

Zagreb, Croatia

References

1. Goksedef D, Panagopoulos G, Nassiri N, Levine RL, Hountis PG, Plestis KA. Intraoperative use of recombinant activated factor VII during complex aortic surgery. *J Thorac Cardiovasc Surg.* 2012;143:1198-204.
2. Ferraris VA, Ferraris SP, Joseph O, Wehner P, Mentzer RM Jr. Aspirin and postoperative bleeding after coronary artery bypass grafting. *Ann Surg.* 2002;235:820-7.
3. Chapman AJ, Blount AL, Davis AT, Hooker RL. Recombinant factor VIIa (NovoSeven RT) use in high risk cardiac surgery. *Eur J Cardiothorac Surg.* 2011;40:1314-8; discussion, 1318-9.
4. Hacquard M, Durand M, Lecompte T, Boini S, Briancon S, Carreaux JP. Off-label use of recombinant activated factor VII in intractable haemorrhage after cardiovascular surgery: an observational study of practices in 23 French cardiac centres (2005-7). *Eur J Cardiothorac Surg.* 2011;40:1320-7.
5. Spiess BD, Gillies BS, Chandler W, Verrier E. Changes in transfusion therapy and reexploration rate after institution of a blood management program in cardiac surgical patients. *J Cardiothorac Vasc Anesth.* 1995;9:168-73.

<http://dx.doi.org/10.1016/j.jtcvs.2012.06.062>

PERVENTRICULAR CLOSURE OF POSTINFARCT SEPTAL RUPTURE REVISITED

To the Editor:

We read with great interest and sense of nostalgia the brief report on the technique of perventricular device closure in post-myocardial infarction septal defect by Love and colleagues¹ in 2011. They reported 2 cases of cardiogenic shock after myocardial infarction with septal defects sized 25 and 28 mm. They used the Amplatzer septal occluder (St Jude Medical, Inc, St Paul, Minn) sized 34 mm through a 12F and 13-cm Cook (Cook Group Incorporated, Bloomington, Ind) sheath advanced over a guide wire. The large 50-mm left disk of the Amplatzer device was placed flush with the septum and delivered in the left ventricular cavity. Then, with traction on the delivery system and countertraction on the right ventricular free wall, the proximal disk was deployed exteriorly on the right ventricular surface. After detachment of the device from the delivery system, they went on to tie the purse-string suture and sutured a piece of bovine pericardium between the right ventricular free wall and the device to prevent device erosion caused by movement. Both patients had an uneventful recovery despite a small residual ventricular septal defect, and early discharge from the hospital compared with conventional open techniques of repair

(though one of them needed an additional ventricular septal defect muscular occluder inserted transfemorally on the 10th postoperative day). Of these 2 patients, 1 continued to do well 13 months postoperatively; however, after 3 weeks the other returned in a state of profound low cardiac output and died despite a minimal residual ventricular septal defect, primarily because of biventricular myocardial failure.

Although Love and colleagues¹ noted that they were unaware of any previous such reports in the indexed literature, we would like to take this opportunity to bring readers' attention to our previous presentation, the world's first case report video with this hybrid technique in 2006. The technique video with 13-month follow up was presented in the teaching video sessions of the 2008 annual conference of the International Society of Minimally Invasive Cardiothoracic Surgery meeting in Boston. The abstract was published in the Society's official journal *Innovations*.²

This 62-year-old male, hypertensive, nondiabetic patient presented in cardiogenic shock as a result of inferior wall myocardial infarction, which also involved the right ventricle, and anuria. The patient was initially managed with an intra-aortic balloon pump for 9 days. As urine started flowing and renal function improved, coronary arteriography revealed critical triple vessel disease with a left ventricular ejection fraction of 30% and a right ventricular ejection fraction of 25%. The patient had a septal aneurysm on the right ventricular side, with multiple sievelike septal necroses (type III dissecting septal rupture) measuring 18 mm. In view of the prohibitive risk of conventional open surgery in this situation, we (like Love and colleagues¹) involved a pediatric cardiologist and decided to use transesophageal echocardiography for hybrid imaging and off-pump triple bypass. This included a left internal thoracic artery graft to the left anterior descending coronary artery