measurements of coronary blood flow, regional myocardial blood flow, systemic hemodynamics, and electrocardiography during different physiologic conditions confirmed that coronary compression between the great vessels produced myocardial ischemia. A clinical study is urgently needed to replicate and clarify the implications of this finding and to generate standardized treatments for congenital coronary anomalies. Finally, we thank the editors of *The Journal of Thoracic and Cardiovascular Surgery* for the opportunity to comment on our work.

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AWAKE THORACIC SURGERY FOR SECONDARY SPONTANEOUS PNEUMOTHORAX: ANOTHER ADVANCEMENT To the Editor:

With a great and renewed interest, we read the recent article by Noda and colleagues.¹ They advocated the usefulness of awake thoracoscopic surgery in treating patients with secondary spontaneous pneumothorax, listing various advantages in a total of 57 consecutive patients whom they treated. These advantages compel us to answer “yes” to the question in the title of their article, “Is there a benefit of awake thoracoscopic surgery in patients with secondary spontaneous pneumothorax?” Noda and colleagues¹

appropriately deserve credit for this growing experience in awake surgery.

In our own personal experience, the awake surgical treatment of secondary spontaneous pneumothorax has been one of the most critical challenges, first because of the severe and sometime lethal underlying lung disease and second because of the deteriorated general condition of the patients, which often makes them surgically untreatable.

In this setting, we have recently speculated on the biologic bases of these clinical advantages. Indeed, our preliminary observations have shown that awake procedures may attenuate the release of stress hormones (cortisol) and systemic inflammation biomarkers (interleukin 6) and preserve natural killer cell proportion from the early postoperative period onward (Table 1). The impairment of immune function may lead to several adverse effects, including postoperative infections, thus explaining better clinical results seen after awake surgery.

With attention to the particular medical needs of our patients, we offer awake surgery and follow the preference of the patient after adequate information about technical aspects of the procedure. Nowadays, we see favorable satisfaction with the procedure among both patients and referring physicians.

TABLE 1. Stress and immunologic response markers assessed at timed intervals from the procedure for spontaneous secondary pneumothorax in awake patients (n = 14) and nonawake controls (n = 17)

		Postoperative		
		12 h	24 h	48 h
Preoperative				
Cortisol (μg/dL)				
Awake	13 (8-17)	14 (9-18)	13 (8-18)	12 (9-15)
Control	14 (8-18)	23* (17-43)	21† (13-30)	18‡ (14-28)
<i>P</i> value	.4	.02	.01	.05
Interleukin 6 (pg/mL)				
Awake	3.5 (2.5-4.5)	80* (59-121)	61* (41-86)	10‡ (5-21)
Control	3.4 (2.4-3.8)	124* (82-177)	111* (88-153)	43* (22-91)
<i>P</i> value	.5	.03	.01	.001
Natural killer lymphocytes (%)				
Awake	11 (7-15)	10 (6-13)	10 (7-13)	11 (6-14)
Control	10 (5-15)	5* (2-7)	6† (3-9)	8‡ (4-10)
<i>P</i> value	.4	.01	.02	.06

Values represent medians and interquartile ranges of unpublished data. * $P \leq .001$ for intragroup significance versus baseline value. † $P \leq .01$ for intragroup significance versus baseline value. ‡ $P \leq .05$ for intragroup significance versus baseline value.

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.

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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