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professional, to provide compassionate care for a group of people from the far-flung regions of the globe, people who had to face tremendous challenges on multiple fronts. We merely wanted the surgical community to be made aware of our work, share our experiences and lessons learned over the past 3 decades, and aspire to appeal to everyone's better angels. We hope to one day meet Dr Demirer and her colleagues, share a meal together, and have the opportunity to volunteer our services to the great people of Turkey.

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## Emphasizing the Role of Endothelium-Related Hemostatic Factors in COVID-19 Sepsis



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We read with great interest the recently published study by Wright and colleagues,<sup>1</sup> in which the authors have investigated the prognostic value of thromboelastography (TEG) measurements of coagulation in patients with COVID-19 admitted to the ICU. Despite the retrospective nature of the study and the low sample size, the authors have interestingly shown that fibrinolysis shutdown, as evidenced by elevated D-Dimer and complete failure of clot lysis at 30 minutes on TEG, predicted thromboembolic events and need for hemodialysis in these patients.

A recent prospective study confirms that SARS COVID-19 patients present a high number of clinically

relevant thromboembolic events, and a significant percentage of these patients had pulmonary embolism,<sup>2</sup> indicating the clinical importance of constructing a predictive model for these events to target anticoagulation therapy. Routine ICU coagulation assessment includes platelets, activated partial thromboplastin time, prothrombin time, fibrinogen, and D-Dimers, but the diagnostic accuracy of these parameters for thromboembolic events remains suboptimal.

Recent findings have demonstrated significant abnormalities of von Willebrand factor (VWF) and disintegrin and metalloprotease with thrombospondin type motifs 13 (ADAMTS13) system in COVID-19 patients. These patients present low ADAMTS13 activity, while VWF levels, VWF/ADAMTS13 ratio and factor VIII levels were increased.<sup>3,4</sup> These findings reveal an important coagulation disorder in SARS CoV-2 patients, probably indicating an important interaction between the injured endothelium and a dysregulated endothelium-related coagulation system. The above alterations might be related to the pronounced endothelial inflammation and neurohumoral activation observed in COVID-19 patients.<sup>5</sup> However, further prospective studies are needed to provide prognostic information with regard to VWF/ADAMTS13 coagulation system in COVID-19 patients.

In addition to the above, we would also like to emphasize the clinical importance of another regulatory system, the thrombomodulin/protein C system, in preserving blood clotting homeostasis, and the functional integrity of microcirculation, which might be altered in sepsis. In a previous article published by our institute,<sup>6</sup> we found important abnormalities of thrombomodulin/protein C and VWF/ADAMTS13 ratios in septic ICU patients who presented deterioration, while protein C (> or ≤17%) and ADAMTS13 (> or ≤22%) percentage differences during ICU stay were independent predictors of sepsis outcome.

Particularly in critically ill patients at high risk of thrombosis and thromboembolic events, such as COVID-19 septic patients, there might be a significant necessity to measure these endothelium-related hemostatic factors in order to set and optimize treatment. In their study, Wright and colleagues<sup>1</sup> show that TEG assessment is a promising tool to predict thromboembolic events in COVID-19 patients; however, we need prospective studies to demonstrate the prognostic validity of this global coagulation approach alone or in combination with other routine and/or specific coagulation parameters.

For these reasons, we strongly believe that a more sophisticated risk assessment model should be constructed and tested, including possibly the VWF/ADAMTS13 and thrombomodulin/protein C systems among other

coagulation factors in relation to TEG in septic patients, particularly those at high risk of thromboembolic events, such as COVID-19 patients. This would allow us to better define which patients might benefit from full anticoagulation or alternative therapies targeting particularly specific disorders.

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## Breast Sensation Satisfaction after Reconstruction and the Implications of Nerve Coaptation for Preoperative Counseling



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We would like to congratulate Dr Casaubon and colleagues<sup>1</sup> for their article, “Breast-specific sensuality and appearance satisfaction: comparison of breast-conserving surgery and nipple-sparing mastectomy.” This article appropriately emphasized the importance of self-esteem and sexual function related to breast intimacy after breast cancer surgery, both with and without reconstruction. They concluded that compared with patients who had undergone nipple-sparing mastectomy (NSM)

with reconstruction, patients who had undergone breast-conserving therapy (BCT) reported significantly higher rates of satisfaction being seen undressed, breast-related sexual intimacy, and postoperative pleasurable breast caress, and made references to the issue of breast hypoesthesia often experienced after mastectomy.

We would like to emphasize a few points regarding this work and the current state of breast reconstruction, specifically as it relates to breast sensation. One point is the combination of all types of breast reconstruction (implant-based, autologous, and otherwise) into 1 “NSM with reconstruction” group. In fact, the options for breast reconstruction are numerous, and they have different attributes that can lead to different outcomes and complications. While grouping them together simplifies the analysis, it also diminishes the ability to identify differences between outcomes from different reconstructive options. Additionally, timing of reconstruction (immediate vs delayed) was not differentiated in the study, but it can have a significant impact, particularly in patients with irradiated breasts.

The second point is that innervated breast reconstruction via nerve coaptation is an increasingly effective means of restoring breast sensation. Multiple studies have demonstrated that nerve coaptation has been associated with improvements in sensory recovery after surgery, both in the immediate and delayed settings.<sup>2–4</sup> Moreover, studies have found that patients who have undergone innervated autologous reconstruction report better outcomes on quality of life measures, including body image after breast cancer, subjective BREAST-Q scores, and functional health outcomes.<sup>4</sup> Kouwenberg and colleagues<sup>5</sup> demonstrated, in a large cross-sectional cohort, that patients who underwent autologous breast reconstruction with nerve coaptation reported significantly higher mean sexual enjoyment, and satisfaction with both breasts and nipples, than the lumpectomy subgroup did. Fortunately, nerve coaptation is a relatively simple and time efficient procedure that requires only approximately 15 minutes of additional operating time,<sup>4</sup> due to the fact that the donor nerve is harvested along with the vascular pedicle of the abdominal tissue, and the recipient nerve (usually the cutaneous branch of the third intercostal nerve) is in the same surgical field as the internal mammary artery and veins that serve as the recipient vessels.<sup>2</sup> Intriguingly, nerve coaptation to the nipple/areolar complex has also shown promising results in implant-based reconstruction.<sup>6</sup>

We hope that this correspondence increases awareness of the option of autologous breast reconstruction with nerve coaptation, and we suggest that to further build