Thromboelastography: Clinical Application, Interpretation, and Transfusion Management

To the editor: Your recent coverage of the perioperative implementation of thromboelastography (TEG) in extracorporeal circulation during cardiopulmonary bypass (CPB) (“Thromboelastography: Clinical Application, Interpretation, and Transfusion Management”1) was comprehensive and informal. I would however like to add context to the topic. A study published by Essell and colleagues,2 concluded that the sensitivity of conventional bleeding studies (prothrombin time, activated partial thromboplastin time, fibrinogen, bleeding time, platelet count, and platelet volume) demonstrated comparative results to TEG; however, the specificity of TEG (89.3%) was superior to that of the bleeding time (78.5%) and platelet count (53.6%).

In regards to the AANA findings detailing the reduction in the number of blood products transfused and the number of patients requiring transfusions during cardiac surgery post implementation of a TEG-algorithm, it should be noted that patients post-CPB with a normal TEG should not receive the empirical administration of platelets or fresh frozen plasma. If excessive bleeding is noted in patients that demonstrate a normal TEG, a surgically correctable etiology is likely the cause. Several studies conclude that suggestions can be made regarding the administration of hemostatic agents and blood products to patients demonstrating an abnormal TEG when signs of accelerated bleeding are present.

TEG technology is also useful in guiding perioperative blood product and hemostatic drug administration in patients with varying degrees of uremic-induced platelet dysfunction secondary to renal failure. Implementation of the TEG heparinase assay assists anesthetists in discerning patients who can be treated with additional dosing of protamine versus patients that require surgical exploration. According to the AANA article, TEG is proven to be more accurate than activated clotting time (ACT) and activated partial thromboplastin time (aPTT). According to Miyashita et al3 low-dose protamine can neutralize the anticoagulant effects of heparin and can mitigate protamine-induced platelet dysfunction. The superior accuracy of coagulation analysis utilizing TEG over ACT and aPTT in patients undergoing CPB can direct protamine administration with greater precision.

REFERENCES

Jason C. Fernandes, BSN, RN, EMT-P, NREMT, CCRN-CMC-CSC
Miami, Florida

Prevention of Prospective and Current Certified Registered Nurse Anesthetists Second Victims

To the editor: I am writing in support of your AANA Journal article entitled “Design of an Evidence-Based ‘Second Victim’ Curriculum for Nurse Anesthetists” published April 2016. The second victim phenomenon is a topic that is often misunderstood and unknown among professionals in the healthcare field.1 The effects of second victim experienced by the healthcare provider show its importance in that, if correctly addressed and enough light is shed on this topic, it can enhance patient safety with evidence-based improvement initiatives.2 The advocating for patient safety is one of the major issues in healthcare organizations where...
there is a patient safety movement to raise awareness by implementing an evidence-based, strategic educational program to help health providers who experience adverse events. The paper highlights two of the major problems with addressing the second victim phenomenon which is (1) the literature provides varying definitions and (2) there is not enough published or available research. In particular, there is no supporting data for any correlation between nurse anesthetists and second victimhood. On a daily basis nurse anesthetists are faced with hectic work schedules, stressful emotional and physical environments, acute split-second decisions indicating that they are more prone to the lasting effects of second victimhood. This suggests that CRNAs and the anesthetists departments are not privy to dealing with the second victim problem.

The authors have suggested a brilliant solution to overcome this problem with the development of an evidence-based curriculum for CRNAs aimed at identifying and validating content using a systematic review of the scientific literature for an educational program using a panel of experts. In nurse anesthesia, there is the educational content requirement to fill the gap on the information lacking in this department to build recognition in both research and clinical practice. CRNAs and student registered nurse anesthetists often will experience abuse via their staff or faculty, so the implementation of the second victim evidence-based curriculum will serve to address, acknowledge, educate and inform them about the phenomenon.

Overall, this study makes a great contribution as not only does it highlight the problem of second victimhood in the healthcare systems and nurse anesthesia departments but it shows the need for more research, supporting data, and other solutions. The possible outcomes that can occur from second victim with the healthcare provider are that they will either survive, thrive, or drop out. Additionally, the data show that social and institutional support plays an essential role in dealing with this phenomenon of the victim’s lived experience. The social support offers an improvement on the short or long-term effects experienced by the victim, as this determines the possible outcomes. Institutional support, although found lacking in programs and policies to address this problem after its occurrence, is necessary to provide supportive environments. Here’s to the beginning of starting the dialogue with research and educational programs of second victim, for not only CRNAs but other healthcare professionals, to increase awareness and develop support systems.

REFERENCES

Kenneth Lowe, BSN, RN, CCRN
Miami, Florida

DISCLOSURES
The author has declared no financial relationship with any commercial interest related to the content of this letter. The author did not discuss off-label use within the letter.