**BLOG**

**Third publication from the International STAR Registry on intraoperative hemoadsorption in iCABG patients on ticagrelor\***

**HA;** *“Welcome back Dr Wendt. Let’s talk this time about the recently published third analysis from the international Safe and Timely Antithrombotic Removal (STAR) registry. Can you remind us what the STAR Registry is?”*

**DW**; “Hello! The STAR registry is an international registry designed to capture real-world data on patients treated with extracorporeal hemoadsorption (in other words, CytoSorb), for antithrombotic drug removal as part of their routine clinical care during on-pump cardiac surgery.”

***HA;*** *So who were the study population included in this third publication?”*

**DW**; “This new publication reports on the use of intraoperative hemoadsorption in patients on the commonly prescribed PY212 platelet inhibitor – ticagrelor (also known as brilinta)- undergoing urgent or emergency isolated coronary artery bypass grafting before completing the guideline recommended washout period of 3 days.”

**HA**; *“Can you explain why this might be an important population?”*

**DW**; “ Rates of serious perioperative bleeding after isolated coronary artery bypass grafting are high in this population, especially if the patient has recently taken an antithrombotic agent and there hasn’t been enough time for the drug to get out of the patient’s system before they need to be taken for surgery. Anything that can be done to mitigate this risk of bleeding is obviously of high interest.”

**HA**; *“Tell us about the publication.”*

**DW**; “This publication includes 102 mostly male patients with an average age of almost 64 who had recently taken ticagrelor. Two groups were created based on the time from the last dose of ticagrelor to surgery: Group-1 was less than 24 hrs and Group-2 from 24-72 hrs.”

**HA**; *“Were there any differences in the groups when they went into the study?”*

**DW**; “Group-1 were high risk patients, based on their EuroSCORE-II, with a high perioperative risk and, not surprisingly, more emergency indications for surgery compared to Group-2. Operation and cardiopulmonary bypass times were similar for both groups at around 4.4 hours.

**HA**; *“What did this mean for the results?”*

**DW**; “Results showed that severe bleeding and re-operations needed for bleeding were more frequent in Group 1. Consequently, this translated into more blood products being given to this group. Importantly, Group 2’s bleeding rates were much lower than that reported in the wider literature. The authors state that overall, the results suggest that intraoperative CytoSorb use is a simple and safe intervention to help reduce the high perioperative bleeding risk of patients on ticagrelor undergoing isolated CABG surgery before completing the recommended 3-day washout. In fact, among the Group 2 non-emergent cases CytoSorb appeared to completely eliminate the excessive ticagrelor-related bleeding risk.”

**HA**; *“What does this mean in clinical practice?”*

**DW**; “Clinically it means that intraoperative ticagrelor removal with CytoSorb helps reduce ticagrelor-related bleeding in patients undergoing i-CABG before completing the 3-day washout, particularly in the time frame between 24 and 72 hrs. Bleeding rates are especially high among patients operated within the first 24 hours after the last dose of ticagrelor, partly due to the additional risk associated with their critical condition requiring emergent CABG. This is important information for the cardiac surgery community as it means we can improve on the current standard of care by allowing timely surgery without undue risks. Finally, the STAR Registry results suggest that the guideline recommended washout period of 72 hours to prevent serious perioperative bleeding complications in patients on ticagrelor requiring i-CABG may be substantially shortened with intraoperative hemoadsorption.”

***HA;*** *“Thank you.”*

**\*Early CABG with intraoperative hemoadsorption in patients on ticagrelor: Real world data from the international Safe and Timely Antithrombotic Removal (STAR) registry**

Storey RF, Hassan K, Meyer AL, Eberle T, deNeve N, Thielmann M, Bernardi MH, Marczin N, Guenther U, Panholzer B, Maechler H, Hunter S, Matejic-Spasic M, Wendt D, Deliargyris EN, Schmoeckel M.

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