A shorter interruption of anti-thrombotics does not influence peri-operative complications

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A shortened pre-surgical interruption of anti-thrombotic therapy, compared to the more traditional one-week interruption, has no influence on perioperative complications in cardiac patients, according to the results of the PRAGUE 14 trial.

"Thus, there is no evidence to support changing the traditional approach of interrupting antithrombotic therapy one week before surgery," said lead investigator Petr Widimsky, MD., DrSc., from the Cardiocenter of Charles University, in Prague, Czech Republic.

The results shed light on a persistent dilemma for surgeons and the dueling risks faced by cardiac patients undergoing surgery.

While treatment for most cardiac patients involves antithrombotic therapy which can pose a cardiac risk if interrupted, the continuation of such medications before surgery may also be problematic because they can increase the risk of surgical bleeding, said Professor Widimsky.

"The risk of surgical hemorrhage is increased by 20% in patients taking aspirin and 50% in those taking dual antiplatelet therapy," he explained. "Is it better to withdraw the drugs and reduce the hemorrhagic risk or to maintain them and reduce risk of a myocardial ischemic event ?"

As a compromise for these competing concerns, antithrombotic therapy

is often interrupted for a period of one week prior to surgery, but the ideal duration of such an interruption remains undetermined, he said.

To explore this, the PRAGUE 14 study enrolled 1,200 consecutive cardiac patients (mean age 74 years) who were undergoing non-cardiac surgery at a large tertiary university hospital between 2011 and 2013.

The majority (83.7%) of patients had been receiving antithrombotic medication within the month before surgery, with the most common drug being aspirin (53.3%), followed by warfarin (23.4%), thienopyridine derivatives (ticlopidine or clopidogrel, 1.7%), dabigatran (0.3%), or dual antiplatelet therapy (5%) – which is a combination of aspirin and one other antithrombotic medication.

Aspirin was stopped a median of 7 days prior to surgery, whilst warfarin and thienopyridines were stopped a median of 8 and 4 days respectively prior to surgery.

"This was a real life registry - the study design did not prescribe interruption, rather it was left to the discretion of the attending physician, so overall there is a continuous spectrum of interruption from 0 days to more than 10 days," he explained.

The study showed that perioperative cardiovascular complications occurred in 7.6% of patients, and perioperative bleeding occurred in 13.3%.

Thirty-four of 91 patients (37.4%) with perioperative cardiovascular complications died, compared to only 2 deaths in 159 patients (1.26%) with perioperative bleeding complications.

Multivariate analysis revealed that "surprisingly, the length of aspirin interruption before surgery predicted neither perioperative

cardiovascular nor bleeding complications," noted Dr. Widimsky.

Instead, independent risk factors for perioperative bleeding complications were high platelet count and the presence of a prosthetic valve, while independent risk factors for perioperative cardiovascular complications included age, preoperative anemia, history of previous PCI, history of chronic heart failure, general versus other types of anesthesia and, acute surgery versus elective.

While antithrombotic interruption was not an independent risk factor, univariate analysis did show that a shortened pre-operative interruption of aspirin (a median of 2 days compared to 7) was related to more bleeding and cardiovascular complications.

"Most likely this is related to the fact that acute surgery, which has an inherently higher risk, was the reason behind most cases of shortened aspirin interruption," said Prof. Widimsky.

The findings confirm that pre-operative antithrombotic therapy interruption should remain at a duration of one week, as currently recommended, he said.

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