radcliffe cardiology

Title: HFA 24: The ARIES HM3 Trial
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"Hi, my name is Finn Gustafsson. I am from the University of Copenhagen Rigshospitalet in Denmark. And today I'll be discussing the ARIES HeartMate 3 trial and the sub-analysis of the patients with prior indication for aspirin in the trial.

Study Overview

So the ARIES HeartMate 3 trial was a trial trying to understand whether aspirin is needed after implantation of an LVAD, namely the HeartMate 3, in addition to the warfarin or vitamin K antagonists that we use for these patients. So the study was conducted as an international randomised clinical trial comparing placebo to aspirin on top of warfarin in patients that had just received a HeartMate 3.

Objective

So this trial was very important for us to understand how we would manage our patients and avoid thrombotic events after LVAD implant, while also reducing, was the hypothesis, the number of non-surgical bleeding events.

Study Population

In the ARIES HeartMate 3 trial, we enrolled more than 800 patients. Some were then excluded, and of those, 41 patients were excluded because the investigator felt that they had an imperative indication for aspirin, so they were not in the trial. And this number is important. In the end, we randomised 628 patients to either placebo or aspirin, and these were the usual patients that would receive an LVAD. So in the late fifties, a large proportion with ischemic heart disease and the majority of them being Intermacs two and three.

Subgroup Analysis

Now, for the analysis that we are presenting here, we're looking specifically at the subgroup of patients whom we could consider would have a guideline-based prior indication for aspirin prior to LVAD. So patients with prior PCI, CABG, peripheral vascular disease, or stroke, and that was 41% of the 628 patients randomised into ARIES. So this is the population we are comparing in this study. We are looking at the effect of aspirin compared to placebo and looking at that in the subgroup of patients with a history of previous coronary revascularization, stroke, or peripheral vascular disease compared to those that did not have any of those conditions.

Key Findings

So this is the study. Those two groups are different because patients who had the prior indication for aspirin were older, more commonly had prior sternotomy, had more atrial fibrillation, and also had more diabetes compared to those patients that did not have that indication. So a higher risk population. And indeed, prior to the ARIES trial, we had many discussions with the investigators on whether people were comfortable with whether there was equipoise to remove aspirin from this group. So this is one of the reasons why the study is important.

Results

So the key findings of this sub-analysis from the ARIES HeartMate 3 studies are that the primary endpoint, which was the incidence of death or a hemocompatibility-related adverse event within the first twelve months, was no different in the subgroup with a prior indication with aspirin compared to no prior indication to aspirin. So the non-inferiority was met for not using aspirin also in the group with a prior indication for aspirin. Indeed, also there was no difference in the incidence of with placebo and aspirin in the two subgroups, no statistically significant interaction. And indeed, if anything, it appeared that there were fewer events in the group that was treated without aspirin with placebo.

And finally, the incidence of bleeding, non-surgical bleeding, was much higher with aspirin, in particular in that group, which we identified as the one that would traditionally have had an indication for aspirin prior to the LVAD implant. So those are the key findings of this sub-analysis from the ARIES HeartMate 3 study.

Implications

This sub-study is important because prior to initiating the trial, there was a concern about equipoise in this population. Some investigators were not comfortable removing aspirin from patients who recently had a coronary stent or a bypass or even a peripheral vascular stent. And we needed to understand that the strategy of aspirin avoidance was also safe and the right thing to do in this subgroup. And that is how this detailed analysis, understanding in detail how the aspirin avoidance worked in this group, is really important. And that's how it adds to the paper published in JAMA in November from the primary publication.

Key Takeaways

The key take-home messages from this ARIES HeartMate 3 analysis are that aspirin avoidance is not just safe. Also in patients with prior coronary disease, with prior peripheral vascular disease or prior stroke, it is also associated with a lower incidence of non-surgical bleeding. So we should be comfortable, not just comfortable, we should absolutely do it. Remove aspirin, do not add aspirin to the treatment regimen after HeartMate 3 implantation. Also in that group of patients.

Future Directions

Well, I think we have, when we talk about what are the next steps, how should we implement this and what are the next steps in the future to understand how to treat these patients. I think we have established that aspirin is not needed. So I think one important step is to implement this and make sure that patients are not exposed to aspirin after LVAD implant, because this will reduce the incidence of bleeding, will reduce

hospitalizations, and reduce cost. So this is the most important thing when we look into the future and what these findings mean and where we will go.

I think, importantly, we need to go home and make sure that we don't treat our patients with aspirin after an LVAD implant, because this is safe and will lead to a lower incidence of gastrointestinal bleeding, in particular, lower cost, fewer hospitalizations.

We look a little bit ahead into the future. New trials will help us understand whether substitutions for vitamin K antagonists or at least warfarin might be even more effective while we still have aspirin out to prevent pump thrombosis strokes and with an even lower incidence of gastrointestinal bleeding. So I think that is where we will be going in the future.