

**SPEAKER 1:** We looked at a group of patients who's been followed here in Olmsted County, Minnesota, where we have detailed information about their cognitive function as they age. And the bottom line of our study was that we did not find an association between exposure to anesthesia surgery and the development of mild cognitive impairment in these patients.

Mild cognitive impairment is a diagnosis where you are not meeting criteria for dementia, or Alzheimer's disease, but you are starting to have some problems with your thinking. And so this was actually a diagnosis that was largely developed here, through the work of the investigators at the Mayo Clinic study of aging. And we thought it might be a relatively sensitive indicator that if anesthesia and surgery is associated with problems and thinking, we might see this in this diagnosis of mild cognitive impairment.

It appears that most of the association that we found between more recent anesthesia exposures and the development of mild cognitive impairment, were patients who had vascular disease and required vascular surgery. And that may not be surprising because there is increasing evidence that some of the problems that we see with cognition in the elderly may be caused by vascular problems that cause stroke and other sorts of problems like that. So maybe not surprising that the patients who needed surgery for those conditions did seem to have a tendency towards having an association between that surgery and the development of their cognitive impairment.

It's apparent now that, especially in the elderly, that anesthesia surgery-- that whole experience-- can have long-lasting effects. And so as a specialty, anesthesiologists are now much more concerned about doing things in that immediate perioperative phase that will not only help get them through that phase safely, but then also help them to recover more quickly and enjoy a greater resumption of their normal quality of life. So we pay much more attention to things like pain control, using the right kind of anesthetic, by looking at early ambulation, other sorts of things that we do to get patients up and around.

We do see some associations between the exposure of young children to anesthesia and surgery and some problems with learning and memory later in life. So there's a stronger connection between what we see in the animal studies and what we see in children. That by no means is established yet. Right now it's just associations and we, and many other people, are doing a lot of work to try to see if this really is a problem in children or not. But I think because of the associations that we've seen, there is more concern in the young than the old. And it will require quite a bit more research to try to figure out what's happening with the children. And if there is a problem, how we can best ameliorate it.