

BroadcastMed | Good Nutritional Control May Prevent Polyneuropathy after Bariatric Surgery

DR. JAMES DICK: My name's Dr. James Dick. And I'm going to talk about bariatric surgery and the development of peripheral neuropathy. If we looked at a cohort of patients, where patients had good nutritional control, attended nutrition clinics, and were given vitamins, would that group of patients not develop a peripheral neuropathy?

Our previous study was largely composed of patients who had their surgeries outside of Mayo Clinic. So we did another study, and that's the one I'm going to really focus in on today, in which we looked at a cohort of patients who all had their surgeries performed at the Mayo Clinic. All of these patients underwent psychiatric evaluation before surgery. They all attended nutritional clinics at least six months before having their surgery done. And our question was, is the sensory predominant peripheral neuropathy a preventable type of neuropathy?

And so we did this study. And we looked at our results. In our previous cohort, 7% of the cohort developed the sensory predominant peripheral neuropathy. In our new cohort, only 1% developed the sensory predominant peripheral neuropathy. So this was very exciting to us.

It confirmed our hypothesis that with good nutrition, that with attending nutritional clinics, with preventing rapid weight loss, patients with bariatric surgery could actually prevent the onset of the sensory predominant peripheral neuropathy. And this study has recently been published in the *Journal Muscle and Nerve*.

And I think it does have implications for patients who of bariatric surgery. Those implications are that patients who undergo bariatric surgery should realize their potential risk for having the surgery done. And they include peripheral neuropathy.

And the reason people get those neuropathies has to do with malnourishment. So if patients have their surgery, they should attend a program. They shouldn't just choose a surgeon. That is, it needs to be more than the surgeon. They need to go to a place where they have a multi-disciplinary approach, a place in which they will see a psychiatrist. They will go to a nutrition clinic. They will have their nutrition optimized six months before they ever have surgery.

And in this way you can prevent long term complications of bariatric surgery. Because if you think of it, the purpose of bariatric surgery is really to cause malnutrition. You're causing patients to lose weight. This is a weight reduction surgery. And you're purposely trying to make them lose weight that they can't volitionally lose. And so you're making them malnourished.

And so it is a dangerous thing to do. Malnourishment is known to cause peripheral neuropathies through a variety of mechanisms, including vitamin B1 thiamine deficiency, vitamin B12 deficiency, and other deficiencies.

And so in our studies, we haven't identified one particular vitamin deficiency. It's many different vitamin deficiencies that are involved. But by optimizing nutritional management, I think we can prevent the onset of neuropathy. And I think this is the important message.

The message isn't what you do for these patients after they get the neuropathy. The message is, how do we prevent them from getting the neuropathy in the first place?