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Commentary: String sign—the (im) persistence of memory

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Grafting of the left internal mammary artery (LIMA) on to the left anterior descending artery or its adjacent vessels has long been shown to be superior compared with saphenous vein grafts.^{1,2} Patency of the LIMA graft can, however, be compromised due to competitive flow through the native coronary artery when the stenosis is less profound. This finding on angiography has been described as a “string sign.”³ One might wonder if there is enough competitive flow for the graft to lose patency, was there any benefit for the patient? Previous studies have shown that this physiologic scenario is actually quite dynamic, as increasing myocardial oxygen demand can result in the graft becoming the predominate source of flow.^{4,5}

The case presented here by Yazbeck and colleagues⁶ demonstrates this dynamic flow in an impressive clinical scenario. The patient in question was shown to have “string sign” on angiography 8 years following bypass grafting. On follow-up 7 years later, the “string sign” was no longer to be found, whereas the stenosis within the anterior descending artery had increased. This would suggest that as the stenosis within the diseased vessel grew, limiting the flow further, it allowed for the graft to take over and once more be the main source of blood flow. Another term to describe the finding of “string sign” is “disuse atrophy.” As suggested by the findings of this case, the presence of an LIMA graft remains of vital importance, even in the setting of not having been critical to perfusion for a period of years.

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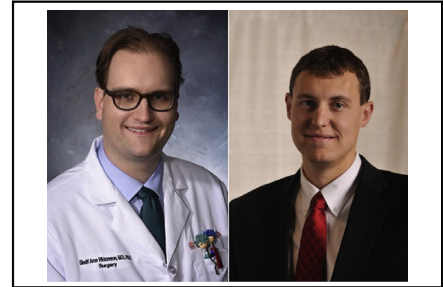
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CENTRAL MESSAGE

Left internal mammary artery to left anterior descending artery grafts are of vital importance; even when affected by competitive flow, the changes over time can be highly dynamic.

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