

Peripheral Percutaneous Stimulation for Refractory Angina Pectoris.
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Introduction:

A proportion of patients suffering with typical chest pain are at increased surgical risk, gain no prognostic benefit from re-vascularisation and are refractory to pharmaceutical manipulations. Literature has shown that in this cohort of patients Spinal Cord Stimulation (SCS) offers demonstrable pain relief¹. However SCS is an invasive procedure with its own inherent risks and limitations. Anticoagulant therapy may contraindicate implantation of SCS in some patients. Peripheral Percutaneous Neuromodulation (PPN) is minimally invasive, technically easier and with fewer complications when compared to SCS and offers comparable pain relief in selected cases². We report on our successful use of peripheral percutaneous neuromodulation in three such cases of refractory angina pain.

Methods:

This technique was used on three patients referred to our unit:

Case A: 50 yrs male complained of typical chest pain radiating to left arm despite having had a coronary artery bypass graft (CABG) and subsequent angioplasty and stenting on two occasions. He was on regular morphine. Severe thoracic spondylosis thwarted attempts at SCS.

Case B: 73 yrs gentleman suffering with similar complaints despite angioplasty only 2 months ago. He required frequent nitrates and had disturbed sleep.

Case C: 58 yrs male had undergone CABG and was on tramadol, rofecoxib and oromorphine. He had tried TENS with no avail.

Following positive testing with external simulation followed by temporary trial catheter, all three patients were then implanted with two subcutaneous quad stimulating permanent electrode inserted percutaneously via long 14 G abbocath on the anterior chest wall.

Results:

Case A and C had 100% pain relief with marked decrease in the use of nitrates and increased exercise tolerance reported by the patient. Case B too had 100 % pain relief and better sleep whilst using stimulation for two weeks. He similarly reported a reduced intake of nitrates. The implant had to be unfortunately removed due to infection after 2 weeks.

Conclusion:

Although the numbers are small, through this study we have shown pain relief comparable to SCS is achievable with Peripheral Percutaneous Neuromodulation with fewer risks. Further larger studies are needed to establish its place in management of refractory angina.

References:

1. Di Pede F et al.; Immediate and long-term clinical outcome after spinal cord stimulation for refractory stable angina pectoris. Am J Cardiol. 2003 Apr 15; 91(8):951-5.

2. Goroszeniuk T.; Percutaneous insertion of permanent peripheral stimulating electrode in patients with neuropathic pain. 6th World congress of International Neuromodulation Society, Madrid, 2003.