

March 26-28, 2018
Vienna, AustriaNatarajan Venkatesh, Int J Anesth Pain Med 2018, Volume 4
DOI: 10.21767/2471-982X-C1-002

EFFICACY OF TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION IN REDUCING STERNAL PAIN AND IMPROVING PULMONARY FUNCTION IN POSTOPERATIVE STERNOTOMY PATIENTS

Natarajan Venkatesh

Sri Ramachandra University, India

Background: The sternum which plays a major role in chest movements undergoes incisional trauma following median sternotomy. The incisional pain causes inhibition thereby reducing the pulmonary function. Transcutaneous Electrical Nerve Stimulation (TENS) is an effective low frequency current which reduces pain in various conditions.

Objectives: The objective of this work is to evaluate the effectiveness of TENS in reducing incisional pain and improving pulmonary function.

Methodology: This experimental prospective study was carried out in an institutional setup involving 35 patients who underwent cardiac surgeries through median sternotomy. The patients were randomized into control and experimental group. The groups were comparable with respect to age, sex, intensity of pain before treatment. Patients performed PFT (Pulmonary Function Test) preoperatively, on fourth Post-operative day(POD) and sixth Post-operative day and their pain score was calculated through Visual analogue scale(VAS). The control group received the routine post-operative physiotherapy management and the experimental group along with routine treatment received TENS for six sessions.

Results: We found a significant difference In FEV1 (Forced

expiratory volume) between control and experimental group. The experimental group showed significant changes in FEV1 from 4th POD (46.67±10.46) with application of TENS to 6th POD (61.78±15.45) when compared to control group of 4th POD (48.82±13.64) to 6th POD (53.94±12.13). There was significant reduction of VAS in experimental group when compared to control group. This reduction could be the reason for improvement in pulmonary function in these patients.

Conclusions: TENS is the most effective management in reducing pain thereby it improves the pulmonary function in patients who underwent median Sternotomy.

Biography

Natarajan Venkatesh is currently working as Professor in Faculty of Physiotherapy, in Sri Ramachandra University, Chennai, India. He has been in Clinical and Teaching Physiotherapy for the past 25 years. He is PhD Scholar. He is working on influence of yoga on autonomic nervous system. He received Honor Awards for: Distinguish Service Award by the Indian Association of Physiotherapists on 23.01.2005; Best Teacher Award (Chosen by Vice Chancellor, The Tamil Nadu Dr. MGR Medical University on 05.09.2011); Fellowship Award – 51st by The Indian Association of Physiotherapists 2013 (FIAP).

venkateshsru@hotmail.com