Case Series of Left Stellate Ganglion Blocks for Refractory Angina Pectoris: 14 years later and still efficacious

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Background:

Refractory angina pectoris (RAP) is conventionally defined as a chronic pain condition characterized by chest pain resulting from diffuse coronary artery disease which cannot be treated by a combination of optimal medical therapy, or revascularization. In Europe, the annual incidence of RAP is estimated at 30,000-50,000 new cases per year.

Traditional options for this patient group are limited to anti-anginal drug therapy and secondary risk factor modification. Long-term mortality in this patient group was thought to be very high, but recent case series of spinal cord stimulation for RAP showed 50% survival after implantation of 5 years and the mortality rate among all patients with RAP has been found out to be <4 % annually; 70% survive for 9 years or more. It thus becomes important to focus on symptom control and ways to achieve an improved quality of life in this growing population.

Among the reported therapies for pain due to RAP are neuromodulation by transcutaneous electrical nerve stimulation (TENS) or patient-controlled spinal cord stimulation (SCS) and coronary sinus reducers to optimize endo-epicardial blood flow ratio. In 2005, Moore et al published in this journal a trial of temporary left cervical sympathectomy for pain control in RAP.⁵ They compared this to paravertebral blockade and concluded that cervical sympathectomy is a safe and easy analgesic option. The first publication on sympathectomy to relieve chest pain was in 1933 and the potential for long-standing benefits from intermittent blockade was described in 2000.

We describe the use of cervical sympathectomy via repeated left stellate ganglion block (LSGB) for management of RAP.

Comments:

Our centre’s case series demonstrate how a scientific trial has triggered a useful and minimally invasive treatment for RAP and provided better analgesia for patients who suffer from this debilitating pain condition. We maintain high standards and continue offering this treatment as an outpatient procedure in a department with resuscitation facilities.

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Pt	Pain score before block	Pain score after block	Pain score after 5 wks	Angina attacks + frequency	Duration of block
1	8 -10	3 - 4	5 - 6	Daily. Continuous. All day.	Up till 8 weeks.
2	9 – 10	7	8	5- 7 times a day Lasts for 20-25mins	10 weeks
3	6	0	2 - 6	Every other day. Once a day	12 weeks
4	8	3	0	On exertion	8 weeks
5	7 - 8	5 – 6	5 - 6	Daily angina attacks Around 20-30mins	12 weeks
6	8	5	5 - 6	Sometimes twice a day. Sharp and short.	10 weeks

Pt No	Age	Sex	Past Medical History	Interventions	Stellate Ganglion Block	Complications
1	73	M	Housebound Uses mobility scooter IHD	CABG 1997 Trial of SCS 2007 AF Ablation 2018	First trial in 2007 11 weekly basis (total of 32 LSGB)	7/3/16 No symptom relief, repeated in 2 weeks 20/3/17 No symptom relief, repeated in 2 weeks
2	67	M	AAA Bladder cancer Right humeral and left ankle fracture, IHD	CABG 1986,1997 Coronary stenting 2018 SCS 2004 Reimplantation of SCS 2007	First trial 2009 3 monthly basis since 2011 (total of 29 LSGB since 2011)	5/12/16 No symptom relief, repeated in 1 week 5/12/16 Neck haematoma 4/12/17 Neck haematoma
3	56	M	AMI 2004 Previous apical thrombus	Coronary stenting 2005, 2009,2014, 2019 Declined CABG due to young age	First trial 2010 3 monthly basis (total of 28 LSGB since 2011)	16/1/17 No symptom relief, repeated in 1 week
4	48	M	IHD	CABG 2015 Coronary stenting 2015 Declined SCS	First trial 2017 8 weekly basis (total of 7 LSGB since 2017)	None
5	71	M	Bilateral TKR IHD	Coronary stenting 2010 Not suitable for CABG Declined SCS	First trial 2017 3 monthly basis (total of 6 LSGB since 2017)	None
6	68	M	Learning disabilities OSA, IHD	Coronary stenting 2017/2018	First trial 2018 (total of 6 LSGB since 2018)	None
7	62	M	Morbid obesity OSA, T2DM Depression, IHD	Coronary stenting	2018 2019	Short symptom relief <1 week
8	71	M	Conn’s syndrome HTN, IHD	TENS SCS 2017- successful	2015	None
9	63	M	Refractory angina unknown origin	Coronary Stents 2013	2015	Unsuccessful
10	67	M	Refractory angina of unknown origin	Coronary Stents	2017	Unsuccessful
11	55	M	IHD	CABG 2017	2019	Unsuccessful
12	53	M	Coronary sinus aneurysm		2012-2014 (total of 3 LSGB)	Unsuccessful