

AB040. SOH21AS090. Managing refractory cardiac arrhythmias in structurally abnormal hearts via thoracoscopic cardiac denervation: a case series

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Background: The use of cardiac sympathetic denervation (CSD) is well documented for its antiarrhythmic effect in those with structurally normal hearts, in particular in the paediatric population. It is primarily used for the management of congenital conductive syndromes such as long QT syndrome and catecholaminergic polymorphic ventricular tachycardia. Here we present a novel use of CSD in the management of refractory cardiac arrhythmias in adult patients with acquired cardiac disease resulting in structurally abnormal hearts.

Methods: Six patients underwent bilateral cardiac denervation via video assisted thoracoscopic surgery (VATS) between 2014 and 2020. This procedure involves identification and division of the lower half of the stellate ganglion and the sympathetic ganglia from T1 to T4.

Results: The patients were all male, aged between 33 and 68 (median=54), with the underlying indication being refractory ventricular tachyarrhythmias requiring recurrent defibrillation in five patients and debilitating inappropriate sinus tachycardia in the final patient. The underlying aetiology was ischaemic heart disease in the majority of cases, with one patient post congenital cardiac surgery, and one post viral restrictive cardiomyopathy. Three were done as urgent inpatient procedures and three as elective cases. Complications included transient post-operative Horner's syndrome, and haemothorax requiring re-exploration in

theatre; both complications occurring in one patient out of six. Post procedure all patients were alive at discharge and report a significant reduction in symptoms relating to arrhythmias. All patients reported no further ICD shocks on follow up (range, 2 months–4 years).

Conclusions: CSD can significantly reduce life threatening cardiac events (VF/VT) and should be considered in all patients with structurally abnormal hearts experiencing uncontrollable ventricular arrhythmias.

Keywords: Cardiac denervation; sympathectomy; ventricular arrhythmias

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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