

Development of a Non-Sustained Ventricular Tachycardia treatment pathway

D. O'Hare¹, V. Dhileepan¹, R. Iyer¹, L Jarrett Smith¹, U. Buckley¹

1: Department of Cardiology, Guy's and St. Thomas' Foundation Trust

INTRODUCTION

Non-sustained Ventricular Tachycardia (NSVT) is defined as an ectopic ventricular rhythm faster than 100bpm lasting for at least 3 beats and self-resolving within 30 seconds¹. In many conditions, NSVT is associated with an increased risk for further sustained arrhythmias and sudden cardiac death².

The increasing number of cardiac implantable electronic devices (CIEDs) worldwide is leading to increased detection of NSVT.

Detection of NSVT may require admission to hospital, insertion of an implantable cardiac defibrillator, up-titration of medication, cardiac imaging, or may be considered benign depending on the individual presentation. A structured step-wise approach is recommended³, however this approach requires significant time and often senior expertise to complete correctly.

AIMS

The aims of this project were to create a guideline document and treatment pro forma for detected NSVT within the cardiac device clinic of a tertiary referral London Hospital.

METHODS

Following the identification of a clinical need for a systematic evidence-based treatment approach, a working group was created consisting of senior and junior cardiology medical staff and a highly specialised cardiac Physiologist.

RESULTS

We performed an audit looking at the presentation and treatment of NSVT within a historical one-week window in the Cardiac device clinic.

NSVT was discovered in 18 patients with differing CIEDs (9 PPMs, 4 ICD, 4 CRT-D, 1 CRT-P). All NSVT was detected during routine device interrogation by the cardiac physiology staff. (Figure 1)

Treatment of these patients varied between urgent admission, immediate registrar review, e-mail to consultant, and routine follow-up. Records of treatment plans were not being consistently recorded.

RESULTS

A treatment pro forma for detected NSVT was created with input from all members of the working group. After multiple iterations, and feedback from members of the working group and wider cardiology team, the final design of a two page document was agreed upon. (Figure 2).

REFERENCES

1. Buxton AE, Duc J, Berger EE, Torres V. Nonsustained ventricular tachycardia. *Cardiol Clin*. 2000;18(2):327-336. viii. doi:10.1016/s0733-8651(05)70144-2
2. Kastritis DG, Zareba W, Camm AJ. Nonsustained Ventricular Tachycardia. *J Am Coll Cardiol*. 2012;60(20):1993-2004. doi:10.1016/j.jacc.2011.12.063
3. BMJ Best Practice: Non-sustained ventricular tachycardias. BMJ (Online). Published 20178. <https://bestpractice.bmj.com/topics/en-gb/631>

RESULTS

The new NSVT treatment pro forma enables rapid assessment and prompts data acquisition of relevant information. It is filled by both the cardiac physiologist interrogating the device and a physician in the cardiology service.

Treatment plans are clearly documented. Instructions inform the member of staff of when and how to escalate to a senior member of the electrophysiology service.

Detected NSVT during one week Audit

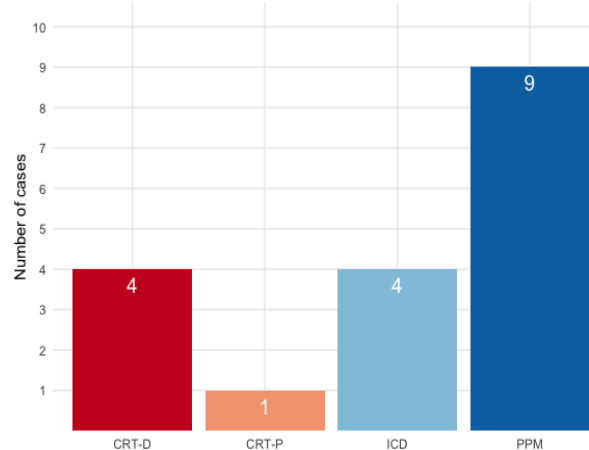


Figure 1: Detected NSVT and corresponding CIED

Figure 2: Final NSVT Treatment pro forma

CONCLUSION

A treatment pro forma was created to improve clinical outcomes of NSVT by a newly established working group.