

DROP DEAD

in less than 60 minutes

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1 INTRODUCTION

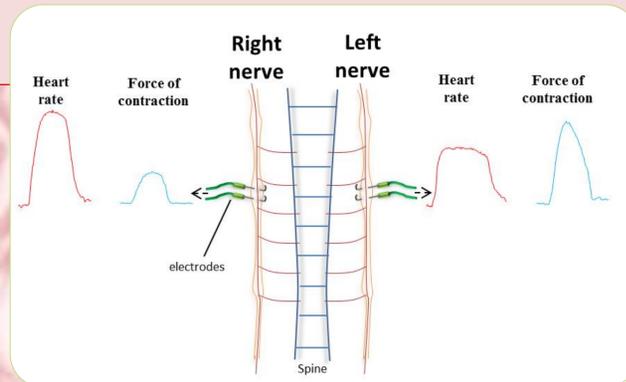
SUDDEN CARDIAC DEATH

- Causes unexpected death less than an hour after the onset of symptoms¹
- Can strike without prior symptoms
- Can happen to ANYONE e.g. footballer Anthony Van Loo
- Claims more than 60,000 lives per year in the UK²
- Main cause is arrhythmias
Arrhythmia = Abnormal heart rhythms



SYMPATHETIC NERVES

- The heart is controlled by nerves like the sympathetic nerves which increase heart rate and force of contraction of the heart. They can also increase the development of arrhythmia³
- The sympathetic nerves split into a left nerve and a right nerve that run parallel to the spine. These both have different effects on the heart⁴ and could therefore have different roles in arrhythmia.



2 METHODS

Step 1

- The heart is extracted from an animal model with the sympathetic nerves still intact.

Step 2

- The heart is perfused with a solution that keeps it alive and **beating outside of the body.**

Step 3

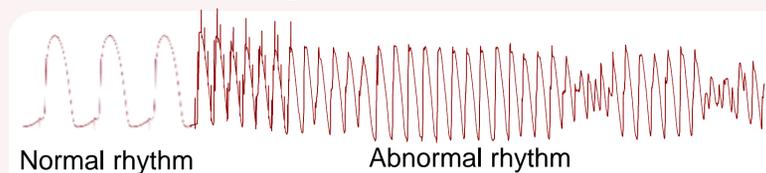
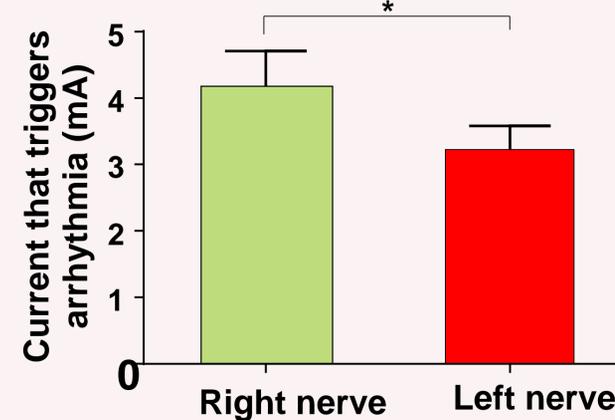
- The left and right nerves are stimulated with electrodes



3 RESULTS

The left nerve requires a smaller current to trigger arrhythmia

The right nerve requires a larger current to trigger arrhythmia



4 DISCUSSION

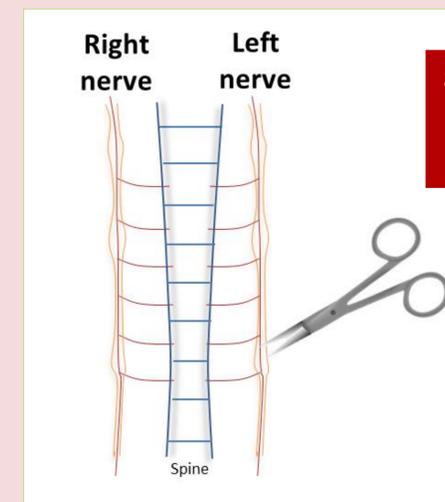
Stimulation of the left sympathetic nerve is more likely to trigger abnormal heart rhythm (arrhythmia)

So why is this important?

The data indicates that the left nerve can be used as a target for treatment of arrhythmias.

By surgically cutting the left nerve we can:

- Prevent episodes of arrhythmia
- Reduce risk of sudden cardiac death



5 REFERENCES

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