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## BACKGROUND

Prognostication in advanced cancer, essential for decision making and end of life planning, is challenging.

Previous research demonstrated heart rate variability (HRV) may be a novel prognosticator. HRV, a measure of autonomic function, is the variation in the time interval between normal heartbeats as measured on an electrocardiograph (ECG).

One measure of HRV is the standard deviation of normal to normal intervals (SDNN) and studies suggest higher SDNN values indicate longer survival time.

A previous prospective study examined HRV in patients with advanced cancer in hospice services. HRV measured from 5-minute ECG. This study is a retrospective chart review of time to death (TTD) in this cohort.

## AIMS

- Evaluate the clinical utility of SDNN as a prognostic marker in advanced cancer in hospice.

## METHODS

- TTD was calculated from date of ECG / HRV analysis in the previous study. Data analysed by IBM SPSS™ V24.
- As we are investigating clinical utility rather than evaluating population trends, Pearson's correlation coefficient was used to examine relationship between SDNN and TTD.

## RESULTS

Of the 20 patients in the original study, 18 had died by time of this study.

With a view to clinical utility rather than population trends, 2 survivors were excluded from further analysis.

Thus, 18 adults (11 males) with advanced cancer were included.

Median age at recruitment: 69.5 years (Range 33-89).

Mean SDNN: 26.57 milliseconds, SD±18.25 milliseconds.

Mean survival from date of ECG: 138.61 days, SD± 106.33 days.

A scatter plot of SDNN vs TTD is shown in Fig 1.

Pearson's correlation coefficient  $r = -0.023$ ,  $p = 0.928$

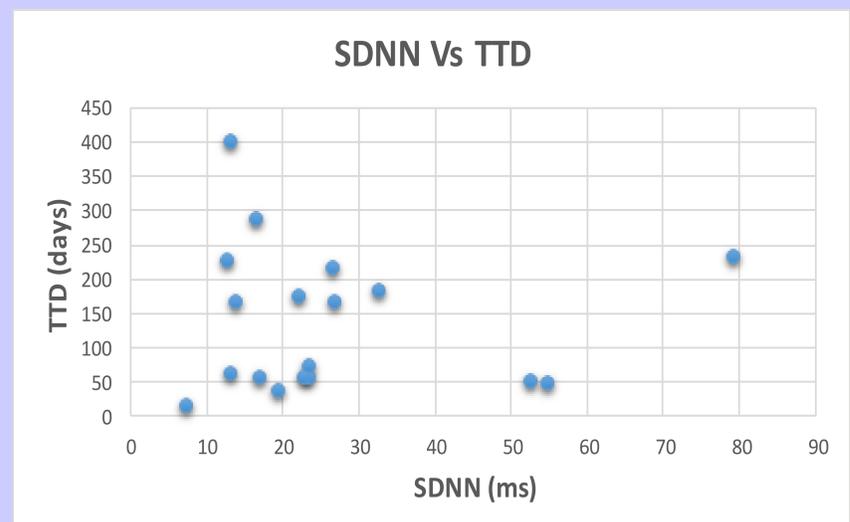


Fig 1. Scatter plot of SDNN vs TTD

## CONCLUSIONS

Pearson's correlation coefficient suggests SDNN was not associated with TTD in this study cohort.

SDNN alone was not clinically useful in predicting TTD for patients with advanced cancer in this cohort.

SDNN and other HRV parameters may be useful when combined with other biomarkers for prognostication.

## References

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