

12.9: Statistical Literacy Standard

Learning Objectives

- Troponin Concentration and Ventricular Strain

Cardiac troponins are markers of myocardial damage. The levels of troponin in subjects with and without signs of right ventricular strain in the electrocardiogram were compared in the experiment described here.

The Wilcoxon rank sum test was used to test for significance. The troponin concentration in patients with signs of right ventricular strain was higher ($median = 0.03$ ng/ml) than in patients without right ventricular strain ($median < 0.01$ ng/ml), $p < 0.001$.

Example 12.9.1: what do you think?

Why might the authors have used the Wilcoxon test rather than a t test? Do you think the conclusions would have been different?

Solution

Perhaps the distributions were very non-normal. Typically a transformation can be done to make a distribution more normal but that is not always the case. It is almost certain the same conclusion would have been reached, although it would have been described in terms of mean differences instead of median differences.

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