

BLOOD-BRAIN BARRIER EXPERIMENT

3. The Response and Explanatory Variables

The purpose of the experiment is to determine whether the method of disrupting the barrier is effective. Since the amount of the antibody in normal tissue indicates how much of it the rat actually received, a key measure of the effectiveness of transmission across the blood-brain barrier is the ratio of the antibody concentration in the brain tumor to the antibody concentration in normal tissue outside of the brain. The brain tumor concentration divided by the liver concentration is a measure of the amount of the antibody that reached the brain relative to the amount of it that reached other part of the body. The ratio Brain/Liver is the response variable in the experiment.

The explanatory variables in the experiment comprise two categories: design variables are those that describe manipulation by the researcher; covariates are those measuring characteristics of the subjects that are not controllable by the researcher. Thus the design variables are sacrifice time (hours) and the type of treatment (BD or NS).

