The ability to predict impending complications after elective cardiac operations from measurements of blood pressure, cardiac index, arterial pH, and urine output on the day of operation, was compared with that of indirect measurement of stomach wall pH in 85 patients. We found that acidosis in the stomach wall was the most sensitive predictor for complications. The specificity of this predictive test increased exponentially as the duration and degree of intramural acidosis increased. Hypotension, acidosis, and oliguria, but not cardiac index, also predicted post-surgical problems. Stepwise, logistic regression analysis of the data that showed postoperative complications was best predicted by the duration of hypotension, and the predictive ability was significantly improved when the duration of intramural acidosis was included.

Bibliography