

## Literature Briefs

Myron B. Laver, M.D., Editor

Literature briefs were submitted by Drs. L. C. Andrews, R. D. Bastron, R. Clark, B. Das, M. Edwards, A. Goldblatt, J. Harp, J. Levitt, W. Mannheim, G. Rockwell, S. Shnider, and M. J. Strong. Briefs appearing elsewhere in this issue are part of this column.

### Circulation

#### CARDIAC EFFECTS OF LAPAROSCOPY

During laparoscopy, intraperitoneal carbon dioxide insufflation to pressures as high as 20 mm Hg resulted in significant changes in arterial pressure (systolic +13 mm Hg; diastolic +15 mm Hg), central venous pressure (+6 mm Hg), heart rate (+6 beats/min),  $P_{aCO_2}$  (+9 mm Hg), and  $pH$  (-0.07 units). A further increase in insufflation pressure to 30 mm Hg was accompanied by significant depression in systolic pressure (-8 mm Hg), central venous pressure (-4 mm Hg), and pulse pressure (-8 mm Hg), and an insignificant decrease in cardiac output (-0.2 l/min). Normal values returned with abdominal decompression. The authors recommend that intra-abdominal pressures greater than 20 mm Hg should be avoided. (Motew, M., and others: *Cardiovascular Effects and Acid-Base and Blood Gas Changes during Laparoscopy*. *Am J Obstet Gynecol* 115: 1002-1012, 1973.)

### Respiration

**ASPIRATION PNEUMONIA** In a retrospective of documented aspiration in 47 patients (episodes of aspiration directly observed or gastric contents suctioned from the trachea), radiologic diagnosis of aspiration pneumonia could be made only in 39. Three patients died before x-ray films could be taken, and in five patients, no roentgenographic changes occurred. Most patients were acutely ill or comatose before aspiration occurred. In only 15 patients did aspiration occur during general anesthesia. In another 18 patients a nasogastric tube was in place at the time of aspiration. Twenty-nine of

47 patients (62 per cent) died; in 23 of these, death was directly attributed to aspiration. When one lobe of the lung was involved (x-ray diagnosis), mortality was 41 per cent, but with the involvement of more than one lobe mortality rose to 90 per cent. Antibiotics, steroids, and mechanical ventilation—alone or in combination—did not alter the mortality rate from aspiration pneumonia significantly. (Cameron, J. L., Mitchell, W. H., and Zuidema, G. D.: *Aspiration Pneumonia: Clinical Outcome*. *Arch Surg* 106: 49, 1973.)

### Renal Function

#### SURVIVAL FROM ACUTE RENAL FAILURE

It has been shown that intravenously administered essential l-amino acids and hypertonic glucose (renal failure fluid) have beneficial metabolic effects on patients with acute renal failure. The present report analyzes results of therapy on survival and recovery of renal function in a prospective double-blind study of 53 surgical patients with renal failure. The control group received hypertonic glucose solution. The groups were well randomized. Twenty-one of 28 patients receiving the test fluid recovered, compared with 11 of 25 in the control group. The differences were greater in higher-risk patients (those requiring dialysis or whose courses were complicated by pneumonia, GI bleeding or septicemia) than in patients with milder forms of renal failure. Moreover, renal function appeared to improve earlier in patients treated with the test fluid. The authors postulate that the fluid provides proper substrates and energy requirements for protein synthesis and earlier tubular regeneration and that the improved survival is related to more rapid recovery of renal function. (Abbott, W.M., and others: *Improved Survival from Acute Renal Failure after Treatment with Intravenous Essential l-Amino Acids and Glucose*. *N Engl J Med* 288: 695-699, 1973.)