Literature Briefs

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Literature briefs were submitted by Drs. L. Brand, L. Cooperman, B. Dalton, M. Gold, A. Goldblatt, J. Harp, L. C. Mark, H. Rackow, and G. Rockwell. Briefs appearing elsewhere in this issue are part of this column.

Circulation

CORONARY ARTERY BYPASS GRAFTS

Angiographic studies of 84 patients who had aortocoronary venous bypass graft operations revealed that of a total of 177 grafts, 82 grafts in 64 patients were patent and functioning well; nine grafts, although patent, functioned poorly; and 26 grafts were occluded. Selective coronary-artery angiography and left cineventriculography demonstrated changes when comparison was made with preoperative studies. Among those with functioning grafts (14 patients), substantial progress of disease was found in the arteries bypassed by the grafts. In contrast, those with occluded grafts had no important change in the bypassed arteries. Ventriculography showed improved contractility and decreases in end-diastolic pressures in 36 of 64 patients with patent functioning grafts; the remaining patients in this group showed little change, as did 15 patients with stenosed or occluded grafts. Five patients with occluded grafts had decreased contractility and elevated end-diastolic pressures. The statistical significance of these results is influenced by the fact that a third of the whole group was studied because of recurrence of symptoms. (Rosch, J., and others: Aortocoronary Venous Bypass Grafts, Radiology 102: 567-573, 1972.)

Renal Function

RENAL TUBULAR ACIDOSIS

Renal tubular acidosis (RTA) is a syndrome of metabolic acidosis in which the extent of hydrogen ion accumulation is out of proportion to the impairment of glomerular filtration and is associated with a paradoxical alkaline urine. Growth retardation is an early clinical sign. This report classifies RTA into proximal RTA and distal RTA.

The proximal form is associated with a low renal threshold for bicarbonate, together with a slight but continuous renal loss of bicarbonate amounting to 10-15 mEq/kg/day. Because of the bicarbonate loss, metabolic hyperchloremic acidemia and hypocarbia develop, while the urine remains alkaline. The treatment is 10-15 mEq/kg/day of alkali, with spontaneous recovery the rule. It occurs mainly in males. Excretion of H⁺, renal concentrating ability, and glomerular filtration are all normal.

The distal form is associated with a normal renal threshold for bicarbonate and is characterized by an inability to excrete H⁺ or to concentrate urine. The normal H⁺ intake amounts to 2-3 mEq/kg/day and in the absence of added alkali intake hyperchloremic acidemia develops, while the urine is alkaline and dilute. Polyuria and polydipsia with dehydration are secondary signs. Nephrocalcinosis often develops. The treatment is 2-3 mEq/kg/day of alkali on a permanent basis. Males and females are equally affected. (Nash, M. A., and others: Renal Tubular Acidosis in Infants and Children. J. Pediatrics 80: 738-748, 1972.)