Summary. In an attempt to determine the possible adaptive mechanism in children with cyanotic congenital heart disease, the carbonic anhydrase level of the blood was determined in 18 patients of different ages with proved congenital heart disease of the cyanotic type. The values found were compared with those obtained on six patients with congenital heart disease of the acyanotic type, 13 normal newborn infants and 27 patients with no cardiac disease who varied in age from one week to 20 years.

It was found that the carbonic anhydrase as determined routinely was elevated in all of the patients with cyanotic congenital heart disease as compared with that of patients with acyanotic congenital heart disease or with no heart disease. When corrected for the increased hematocrit, the blood carbonic anhydrase of the cyanotic patients did not differ significantly from that of the acyanotic subjects of similar ages.

The findings by Stevenson of excessively low values for carbonic anhydrase in the blood cells of normal newborn infants were confirmed.

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A Small Adjustable Renal Artery Clamp for Production of Chronic Hypertension in the Rat. (17773)

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In connection with studies concerning the production of arteriosclerosis in the coronary arteries, the need arose for an adequate method to induce chronic hypertension in the rat. For this purpose, a small, adjustable silver clamp, modeled after the larger Goldblatt clamp(1), has been designed and applied to the renal arteries of the rat(2). The clamp first employed measured 2 mm in length, 1.5 mm in width, and 2 mm in height. That finally used and illustrated in Fig. 1 is considerably smaller and measures 1.7 mm in height, 1.65 mm in length, 1.5 mm in width, and weighs 24 mg. It is made of sheet silver, 0.25 mm thick (0.01″), and nickel wire (0.85 mm diameter). A strip is rough cut to size for the casing (A). The edges are rounded and shaped with a fine stone to exact size and formed with a carefully machined punch die. On the top, a hole is centered, drilled, and tapped for the screw (B). Slots are cut with a saw 0.25 mm from the ends for the removable plate (C). The screw is made of nickel wire which is threaded (6 threads/mm), and one end cut with a lathe and drilled to ac-

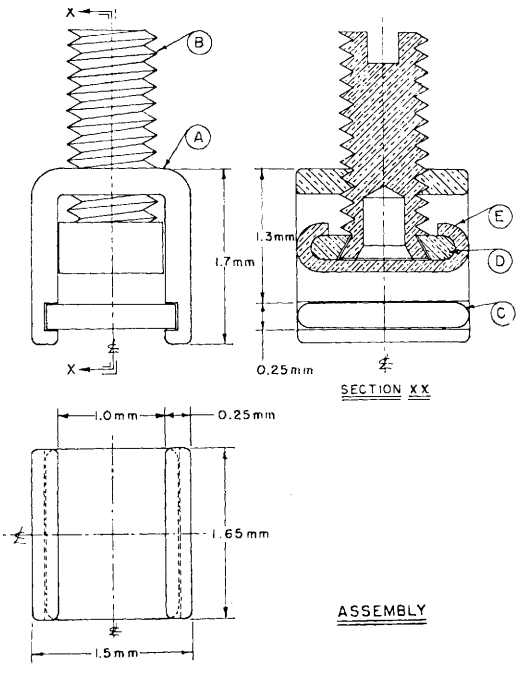

FIG. 1.
Assembly drawing of small, adjustable silver clamp.

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commodate the moving plate (D). A 2-mm length is slotted to take a small screw driver. It is then screwed into the casing. The movable compressing plate is drilled and the hole countersunk. It is then cut and shaped to size. All edges are rounded. The plate is then peened to the screw. A facing plate (E) of 0.12 mm silver is formed and bent to fit the moving plate. Finally, the removable bottom plate is cut, shaped, and finished.

The smaller clamps have been applied bilaterally at one operation with aseptic technic to the renal arteries of 11 rats. The screw of the clamp was turned to give complete occlusion of the artery and then turned back 1 to 1½ turns. This setting of the clamp was not subsequently altered.

Blood pressure, before and after operation, was determined in the hind leg of the unanesthetized rat by a modification(2) of the method of Kersten *et al.*(3). Control blood pressures, before operation, varied from 100 to 125 mm Hg. Eight of the rats attained a blood pressure level of at least 160 mm Hg within a time period varying from 8 to 21 days postoperative. In 2 of the rats, such a pressure level developed somewhat later. One rat died postoperatively with massive infarcts of both kidneys. The pressures have remained elevated (160 up to a maximum of 220 mm Hg) for months in 9 of 11 rats.

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Occurrence of Renal Lesions in Guinea Pigs Given Parenteral PGA.* (17774)

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Human infants and guinea pigs on diets deficient in ascorbic acid and high in aromatic amino acids excrete p-hydroxyphenylpyruvic and p-hydroxyphenyllactic acids and small quantities of tyrosine in the urine(1,3). This abnormal excretion of metabolites is abolished by the administration of ascorbic acid(1,2,4). Since pteroylglutamic acid (PGA) increases the oxidation of tyrosine by suspensions of liver from sulfa-treated rats(5) and because the excretion of phenolic compounds by patients with pernicious anemia is reduced by liver therapy(6) the effect of PGA on the urinary excretion of hydroxyphenyl compounds by scorbutic guinea pigs was studied(7). Daily doses of 5 mg of PGA were found to abolish the hydroxyphenyluria in these scorbutic pigs(7,8). An anatomical study was made of the animals used in these latter investigations and in other experiments devised to elucidate the problem of hydroxy-

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