

ning five minutes after the injection and enduring thirty minutes to one hour. Rise in blood pressure and slight increase in the heart rate in most instances accompanied this. Those with auricular premature contractions frequently developed ventricular premature contractions and vice versa, where they were not in evidence before the injection. Those with left ventricular premature contractions often developed right ventricular premature contractions and vice versa. Two or three ventricular premature contractions occurring together were not infrequent. In each patient with auricular premature contractions, groups of four and five premature contractions in succession appeared. In one individual, free of premature contractions by means of quinidine, many appeared following it. In another, freed of premature contractions by means of digitalis, none appeared following injections of epinephrin. Apparent rhythmicity in the recurrence of the premature contractions often occur following injection. No variation from the basic normal sinus rhythm predominating ever occurred.

## 3185

## Calcium as a diuretic.

HAROLD L. OTTO. (Introduced by H. C. Jackson).

[From the Department of Electrocardiography, New York University and Bellevue Medical College, New York City.]

Singer<sup>1</sup> reported upon the favorable therapeutic effect of calcium, administered intravenously, in conjunction with digitalis in the congestive type of heart failure.

Segall and White<sup>2</sup> concluded that calcium chloride may be employed as a diuretic in this type of heart failure.

Eight patients with congestive heart failure in whom rest in bed and digitalis did not completely remove the edema present, were treated with 15 grams of calcium chloride daily, administered orally, in divided doses, over periods varying from one week to 10 days. No significant changes followed in heart rate,

<sup>1</sup> Singer, G., *Wien. klin. Wochschr.*, 1921, xxxiv, 247.

<sup>2</sup> Segall, H. N., and White, P. D., *J. Am. Med. Soc.*, 1925, clxx, 647.

blood pressure, electrocardiography, urinary output or body weight. In five of these, marked diuresis and significant loss of body weight with disappearance of the edema present followed the administration of other diuretics. In one of these, another diuretic was tried both before and after the trial of the calcium with excellent response at both times, though none occurred during the period of exhibition of the calcium. (This individual only became edema-free when treated with the combination of rest in bed, digitalis and diuretics. When the diuretics were withdrawn, the edema of the dependent portions of his body gradually returned.)

In two more patients with congestive heart failure of similar functional condition, given daily injection of calcium chloride in 0.5 gram doses, results similar to those obtained by oral administration of the calcium occurred.

## 3186

**The protective action of quinidin against the onset of paroxysmal auricular fibrillation and tachycardia.**

HAROLD L. OTTO. (Introduced by H. C. Jackson).

[*From the Department of Electrocardiography, New York University and Bellevue Medical College, New York City.*]

(1) A female, age 23, with mitral stenosis and insufficiency of rheumatic etiology, predisposed to paroxysms of auricular tachycardia, never failed, when not previously subjected to the influences of other drugs, to have a paroxysm of auricular tachycardia following 2 injections of 1 cc. of epinephrin, 15 minutes apart.<sup>1</sup> When quinidin sulphate, 0.2 grams, twice daily, was administered previously, a paroxysm failed to appear upon exhibition of epinephrin in the same manner. This was performed twice. The first time after 6 weeks of this quinidin therapy, and 7 days later during which time no quinidin was administered, a paroxysm of tachycardia followed the exhibition of epinephrin as described. Fourteen weeks of quinidin therapy followed this and at the end of this time no paroxysm appeared after the

---

<sup>1</sup> Otto, H. L., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiii, 550.