first essayed. This was without avail in all. Continuous electrocardiography upon a lead selected from the diagnostic electrocardiogram was begun before the injection commenced and continued until 2 minutes after its completion. The injection occupied about 5 minutes. The dihydrochloride salt of quinin in 0.3 to 0.6 gram doses diluted to 10 cc. was used.

In six injections among four of these patients there was no alteration produced in the tachycardial rhythm governing the heart beat. In the fifth patient, the attacks came to an end with a single auricular premature contraction preceding the onset of the normal sinus rhythm, approximately one and one-half minutes after the injection was completed. This was repeated in three more paroxysms. This patient was having paroxysms lasting about one hour and a half four to six times a day. The injection of the drug did not lessen the frequency of the attacks. In one instance, not included among these ten, a paroxysm came to an end just as the quinin was about to be administered. This points to the caution with which inferences regarding the positive effects of therapy in this condition must be surveyed. In all of these patients no more paroxysms appeared after the oral administration of quinidin.

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Clinical action of adrenalin upon premature contractions.

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Among 12 patients with varying types of heart disease presenting persistent premature contractions, including all the important etiologic, anatomic, and function combinations, epinephrin in a dose of 1 cc. in a solution of 1-1000 was injected hypodermically 18 times. Electrocardiograms of one minute duration on a previously selected lead were taken every five minutes; five before and five or more after the injection.

A considerable increase in the average number of premature contractions occurring per minute resulted in all cases begin-

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 auriclar 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.

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Calcium as a diuretic.

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Singer[1] reported upon the favorable therapeutic effect of calcium, administered intravenously, in conjunction with digitalis in the conjestive type of heart failure.

Segall and White[2] 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,

[1] Singer, G., *Wien. klin. Wchschr.*, 1921, xxxiv, 247.

[2] Segall, H. N., and White, P. D., *J. Am. Med. Soc.*, 1925, clxx, 647.