Electrocardiographic Changes in Hypothyroidism*

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Hypothyroidism produces suggestive electrocardiographic changes. Occasionally the diagnosis of myxedema will first be suspected by these findings.

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A 54-year-old white woman developed generalized headache, fatigue, hoarseness, dryness of the skin, a weight gain of nine pounds and intolerance to the lower temperatures over a period of four months. On examination, the patient appeared ill. Her
weight was 104 pounds, and the brachial cuff pressures were 155/90 mm. of mercury. Her skin was warm and dry. The heart was not enlarged and there was a slow, regular rhythm at a rate of 60 beats per minute interrupted by frequent premature ventricular beats.

Laboratory determinations demonstrated a hemoglobin of 11.0 gm. per cent, serum cholesterol of 382 mg. per cent, and protein-bound iodine of 2.0 mcg. per cent. Electrocardiogram showed regular sinus rhythm at a rate of 60 per minute with frequent premature ventricular contractions. The P-R and QRS intervals were 0.17 seconds and 0.08 seconds respectively. The Q-T interval was prolonged to 0.48 seconds. The axis was normal, the electrocardiographic position semi-vertical, and the ventricular voltage was 0.65 mv. T-1 and T-AVL were low; T-2, T-3, T-AVF and T-V3-V6 were diphasic; and T-V1 and T-V2 were inverted (Fig. 1).

The patient was started on 30 mg. of thyroid extract daily which was increased progressively at weekly intervals to a daily maintenance dose of 120 mg. The symptoms disappeared, her weight fell to 95 pounds, blood pressure remained unchanged and the cardiac apical rate increased to 78 per minute.

After two months of therapy, the hemoglobin increased to 12.5 gm., the protein-bound iodine to 3.1 mcg. per cent, and the serum cholesterol fell to 236 mg. per cent. The electrocardiogram demonstrated a regular sinus rhythm at a rate of 78 per minute. The P-R and QRS intervals remained unchanged and the Q-T interval was reduced to 0.36 seconds. The ventricular voltage increased to 1.0 mv. and the T waves returned to normal (Fig. 1).

Characteristic electrocardiographic changes are observed with hypothyroidism and generally consist of a slow, regular sinus rhythm or bradycardia, low voltage, prolonged Q-T interval, low to flat T waves, and ventricular irritability.

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OPERATIVE TREATMENT OF AORTIC STENOSIS IN THE ELDERLY

Three elderly patients (70, 73 and 75 years of age) with severe progressive symptoms of aortic stenosis are described. Each underwent successful open aortic valvuloplasty and showed marked, sustained symptomatic improvement after operation.


THE SURGEON'S ATTITUDE IN BILATERAL BRONCHIECTASIS

The author observed 75 patients with bilateral bronchiectasis. Of this number, 29 were not operated. The author considers the following as an absolute contraindication to the operation: total or subtotal (more than four lobes) affection of the lungs, a marked pulmonary heart, severe respiratory insufficiency, manifestations of amyloidosis in such localization of the process in the lungs when it is impossible to remove the affected tissue. Operative treatment was carried out in 46 patients; in 21 patients, the operation was performed on the side with greater affection; in 25 patients, a bilateral operation was effected. Of 46 patients subjected to operative treatment, good results were achieved in 28 cases, satisfactory in nine; five died directly after the operation and four succumbed six months to two years following the operation.