

Groups 1, 2 and 3 suggest definite corrective therapeutic procedures, which have been studied. Quinidin was strikingly effective in Groups 1 and 3.

The effects of thyroidectomy, cold temperature, a large meal and nitroglycerin were also studied.

*Arteriography.* By EDGAR V. ALLEN and (by invitation) JOHN D. CAMP, Rochester, Minn.

The arteries of the upper extremity of 75 living subjects were visualized roentgenographically following intra-arterial injection of a radiopaque medium. Local anesthesia was used and incision of the skin was unnecessary.

Three stages of involvement of arteries were seen in thrombo-angiitis obliterans: the primary stage was shown as simple changes in the contour of the artery; the secondary stage appeared as extensive encroachment on the arterial lumen which was represented by irregular channels; the tertiary stage was indicated by complete occlusion of the artery. "Patchy" involvement was characteristic; an artery might be extensively involved, while those in the immediate neighborhood appeared normal and all stages of involvement could be seen in the same arteriogram. The collateral circulation was impressive and appeared able to nourish the tissues of an extremity adequately when the main arteries were completely occluded. Arteries extensively sclerosed had an irregular, moth-eaten appearance and the lumens were reduced in caliber. An aneurysm of the popliteal artery showed clearly as a saccular dilatation surrounded by a mass of soft tissue representing mural thrombosis. Arteriovenous fistulas were characterized by enlargement of the arteries leading to the fistulas, "pooling" of the radiopaque medium in the region of the fistulas and incomplete filling of the arteries distal to the fistulas. The digital arteries of patients with scleroderma were frequently observed to be fine and twig-like; circulation to the digits was definitely impaired. Interpretation of the findings in scleroderma must await more extensive pathologic observations.

*The Demonstration of a Parathyrotropic Substance in Increased Amounts in the Urine of Patients with Hyperparathyroidism Due to Diffuse Hyperplasia of All Parathyroid Glands.* By SAUL HERTZ (introduced by Fuller Albright), Boston, Mass.

We have demonstrated elsewhere that anterior pituitary extracts contain a substance which regularly produces parathyroid hyperplasia in a rabbit. It was, therefore, of interest to see whether a parathyrotropic substance could be found in the urine of the two patients with clinical hyperparathyroidism in whom hyperplasia of the parathyroid glands rather than adenoma was found. This we have succeeded in doing. The gross and histological findings in the parathyroid glands of the injected rabbits are presented.

This finding establishes, we believe, on a firm foundation the existence of a disease entity due to the overproduction of a parathyrotropic substance. That this substance in these cases originates in the pituitary is an attractive but as yet unproven hypothesis.

*The Phosphatase Content of Blood Plasma and Tumor Tissue in Malignant Diseases of Bone.* By CLIFFORD C. FRANSEEN (by invitation) and JOSEPH C. AUB, Boston, Mass.

Determinations of the phosphatase content of blood plasma by Kay's method, show a distinct elevation in patients bearing an osteogenic sarcoma. After removal of the osteogenic lesion, as by amputation, the level of the plasma