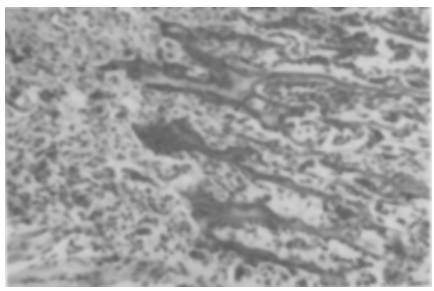

FIG. 2.
Similar changes in the rib of a citrate-treated rat, close to the costochondral junction.

and edema of the bone marrow, transformation of osteoblasts into spindle cells, an increase in the numbers of osteoclasts far beyond the limits of normal, fragmentation of bone trabeculae, and areas of early fibrosis—a picture extremely similar to that seen after toxic doses of parathormone. Very similar but even more severe changes were seen in the metaphysis of the tibia and in the costochondral junctions of Puppy B.

4. Three rats, weighing 100 g each, and 3 others, weighing 50 g each, were given subcutaneously a daily amount of 60 cc/kg of a 4% sodium citrate solution, divided in 2 doses, for 5 days. After 5 days the animals were killed and their bones examined microscopically. The bones of the heavier animals did not show clear-cut changes, while the bones, especially the ribs, of the smaller animals presented lesions essentially identical with those seen in the puppies, although the changes in the rats were much milder.

Summary. The subcutaneous injection of 8 to 30 cc/kg of a 4% solution of sodium citrate into dogs causes a considerable and prompt increase in the urinary excretion of calcium while leaving the blood calcium level essentially unaffected. Repeated subcutaneous injections of citrate into puppies and young rats lead to osseous changes very similar to those produced by large doses of parathormone.

14664 P

Management of Acute Myocardial Infarction by Narcosis.

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The relief of pain, anguish, and apprehension is a very important objective in the management of the initial phase of acute coronary occlusion and myocardial infarction. Morphine and barbiturates are commonly relied upon to secure this, but fail to do so in a satisfactory manner in a number of patients. Even after the abatement of pain, the exhibition of extreme restlessness with much tossing about after repeated administration of these drugs in therapeutic doses indicate the pressing need for some departure in the present almost standardized scheme of therapy. The frequent persistence of a considerable degree of excitement is perhaps more damaging than pain in raising the metabolic activity of the tissues and in imposing an additional burden on an already injured heart at a most critical period. It is therefore proposed on theoretical grounds, that the induction of a sufficiently deep narcosis for an arbitrary period of several days is worthy of trial in selected cases of this disease, notwithstanding certain hazards likely to be entailed by the procedure. By its adoption, however, the prime therapeutic desideratum, namely, that of reducing body metabolic activity, is immediately accomplished, and maintained over the period of narcosis. Three factors operating in this direction are: (1) the relaxation of the body musculature; (2) the almost total deprivation of food; and (3) the abolition of pain and apprehension. It is conceivable that during the prolonged period of sleep, there

would be less likelihood of the production of reflex vasoconstriction in other portions of the coronary tree, and that healing processes might be initiated earlier, since the burden on the heart is lessened.

The following case record is that of a very apprehensive male negro 31 years old, weighing 185 lb., who was admitted 7 hours after an attack diagnosed, and later confirmed, as a recent myocardial infarction. There was a history of chronic alcoholism, hypertension, and syphilis. Forty grains of sodium amytal were given intravenously in divided doses over a 72-hour period. Morphine gr. 1/6 and atropine gr. 1/150 were given hypodermically every 4 hours. He was placed under an oxygen tent with continuous nursing care. A state of narcosis was induced for 71 hours of an observation period lasting 84 hours. The periods of deep sleep or narcosis had a duration of between 4 and 8 hours. There were 11 interruptions in the 84-hour period, occasioned by the hourly inhalations of CO_2 to prevent atelectasis and pneumonia. During these interruptions he manifested considerable thirst and hunger and voided frequently. Urinary incontinence occurred one time; there was no bowel movement. He received 300 cc of fluids daily by subcutaneous or oral route, but chiefly by the former, and this included 1000 cc of normal saline. His food consisted of milk and eggs to total 1600 calories.

During the short periods of wakefulness, he manifested marked drowsiness, but was coherent. On two occasions, he complained of mild precordial pain, and another time, of itching. Restlessness did not reappear. At the conclusion of the period, he was given small doses of barbiturates by mouth, which have been continued to the 16th day after infarction. The patient's convalescence has been uneventful, and his recollection of the early management very pleasant.

Summary. The induction of continuous deep sleep or narcosis by the use of barbiturates given intravenously is suggested for the management of the early stages of acute coronary occlusion and myocardial infarction. This was tried rather successfully on one patient. The inability to produce narcosis of the depth originally planned was probably prevented by the chronic alcoholism.

14665 P

Tissue Culture Studies of Cytoplasmic Inclusion Bodies in Lymph Nodes of Hodgkin's Disease.*

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In the literature, the etiology of Hodgkin's disease has been ascribed to numerous agencies. Among these, bacterial and virus infections have been included.

This report is based on nodes from 35 cases of Hodgkin's disease, obtained surgically from Memorial Hospital, New York. The lymph nodes were from early and late stages of the disease. As controls, normal lymph nodes from 12 radical mastectomy cases were used, also nodes from various lymphomas (20 lymphosarcomas, 15 leukemias) and from 23 metastatic carcinomas and 10 lymphadenitis cases.

The nodes were cut into small fragments (explants, about 1 cu mm in size) from which tissue cultures were prepared in the usual way. The medium consisted of a mixture of fowl plasma, human serum and chick embryo extract. In some cases the serum was from patients with advanced stages of Hodgkin's disease.

The cultures were maintained for a period varying from a few days to several weeks.

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