arterial sclerosis or not, was investigated by animal experiments. When rabbits were given adrenalin, high molecular dextran and/or lanolin for several weeks, atheromatous changes could be produced in the aorta, carotid and intracranial extracerebral arteries. A cerebral injury by means of air gun shot upon the dura was given to these rabbits with arteriosclerosis. The total cholesterol value of the serum was measured, and the animals were sacrificed 2 or 4 weeks thereafter and the vascular system was closely examined.

The results obtained were as follows:
1) Cerebral injury produced the atheromatous changes of the arteries, especially of the aorta.
2) Preexisting arterial sclerosis was aggravated in considerable extent by cerebral injury.
3) Total cholesterol value of the serum was increased by cerebral injury to twice the value in 24 hours and remained in high level for 4 weeks.
4) Intracerebral small arteries and capillaries showed slight sclerotic changes and in some rabbits, with arterial sclerosis and head injury, multifocal small softenings of the brain were found.

155. An Investigation on Headache after Head Injury
—Especially Muscle Tension Headache—

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555 out patients of head injury was examined and treated in our clinic from June 1966 to May 1967. They were classified as follows; acute stadium of head injury (153 cases), no complaints or medical examination applicant (142 cases) and then so-called postconcussional cerebral syndrome (260 cases). 201 cases, approximality 80% of the patients of postconcussional cerebral syndrome complained headache. On these patient having headache, we attempted to classify several types of head ache which was described by Macy (1950).

An adequate headache history is the most important single diagnostic tool. The following headache history form is a useful screening device; age of patient, location and character of headache, neck muscle pain, relief at rest, consequence of dampness and cold.

201 cases of headache patients were analysed clinically as follow: 48 cases of tension headache, 78 cases of muscle tension headache, 12 cases of myofibros-
tic headache and others.

The majority of patients having muscle tension or tension headache was the patients who had slight head injury, and also headache after head injury borne no relation to duration of the admission and application of ice bag or pillow. Procain injection into the neck muscle and the prescription of sedativa was effective for muscle tension headache.

156. Some Therapeutic Effect of Global Air or Oxygen Encephalography upon Posttraumatic Chronic Intracranial Hypotonia

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Quite a few patients sustaining posttraumatic cerebral syndrome, especially complaining of any of headache, neck pain, vertigo, dizziness, staggering, mist, tinnitus, nausea, and vomiting show no abnormalities on neurological examination. Spinal taps were performed for such patients as mentioned above who visited our clinic during the past two months, revealing chronic intracranial hypotonia.

Fourteen cases of chronic intracranial hypotonia were treated by infusion of 500 ml. of 5% glucose solution (or Ringer’s) with 50 mg. of Alinamin-F, and 100 mg. of Vitamin C every other day as outpatients (Group-A). Other fourteen cases suffering from chronic intracranial hypotonia were hospitalized as Group-B, and no fluid treatment was given them. Only global air or oxygen encephalography replacing 50 to 80 ml. of CSF with the same amount of air or oxygen was performed for the Group-B. After an establishment of each treatment on both groups, spinal taps were carried out every one week for the follow-up.

The results were as follows: (1) In the group-A; At the one and a half month after the starting of fluid treatment, five cases showed over 120 mm. of water in CSF pressure, showing a complete loss of their complaints. Spinal taps of nine cases revealed between 1000 and 120 mm. of water, one of which lost their complaints completely and the others alleviated their discomforts, (2) In the group-B; At the one week after the global encephalography, five cases showed over 120 mm. of water in CSF pressure, four of which lost their complaints entirely, and the other lightened his ailment. Spinal taps of nine cases revealed between 100 and 120 mm. of water, three of which improved their discomforts fully, and the remaining six cases relieved their complaints.

Roughly speaking, in the treatment for posttraumatic chronic intracranial hypotonia, global air or oxygen encephalography seems to have an improvement