

2. As a poison acting on the parenchymatous elements, particularly epithelium and nerve, causing slow degeneration and fibroid changes in the blood vessels.

3. It retards oxidation, thus leading to fatty changes.

The effects on the nervous system are best seen in the tremor of the hands and tongue. No characteristic changes are seen in the nervous system. Hemorrhagic pachymeningitis is not uncommon. Opacity and thickening of the pia-arachnoid membranes with more or less wasting of the convolutions generally occur. The most striking effect on the nervous system is the production of alcoholic neuritis. Osler says that alcoholism at first sight may bear a striking resemblance to general paresis, especially in those cases when the pathological findings consist of opacities in the pia mater and congestion of the cerebral substance.

The effects on the digestive system are shown in the catarrh of the stomach, definite changes in the liver leading to various forms of cirrhosis. The effect is probably due to primary degeneration of the liver cells. The typical granular kidney seems to result indirectly from alcohol through arterial changes.

Having outlined some of the most common effects of chronic alcoholism, I will try to give a sketch of our method of treatment, and would say that it is a condition very difficult to treat when the habit is once fully established. Most obstinate cases are those with marked hereditary tendency.

Withdrawal of the alcohol is the first essential, and the most trying period is the first week or ten days of abstinence. The absence of temptation in institution life is of special advantage. For sleeplessness, bromides of hyoscine are useful. Quinine and strychnine may be used in tonic doses. Great care must be taken not to reduce the daily quantity of alcohol too quickly, especially if the patient shows symptoms of delirium tremens. It is often very beneficial to wash out the stomach. If collapse symptoms occur, the limbs should be rubbed and hot applications made to the body. Tincture capsicum in 5-minim doses given occasionally at this period has a good effect. The average case of chronic alcoholism can be in this way removed from his liquor in about a week.

Some cases require longer periods of treatment than others, but a course of five or six weeks is usually found long enough. I would like to emphasize especially the importance of *moral tonics* in treatment of alcoholism. We put all our patients on their honor and do not place any restrictions on them. They are at perfect freedom to come and go as they wish. Under these circumstances a man taking alcohol clandestinely would find himself