

Perhaps the symptoms that one would pay most attention to, and I look upon as being most characteristic, are (they were mentioned by Harley about three years ago), namely, shivering, vomiting, and excessive irritation of the skin, particularly of the skin of the abdomen: indigestion, more or less frequently happens at first; pain over the region of the liver and gall bladder; enlargement of the liver, and, in some cases, jaundice, but no jaundice occurs unless a gall stone passes into the common duct. There is no jaundice while the stone passes through the cystic duct. The shivering is of a peculiar character; it is accompanied with cold, clammy skin, generally with a normal, or very little higher temperature. The face is pallid, and the countenance anxious. In some cases we have severe pain, excessive depression, and hiccough. The hiccough is a symptom which has not been much dwelt upon, but is a very grave one.

I should like to say a word with regard to the formation of gall stones. I think that it is a generally accepted fact that their formation originates from a small piece of mucus, around which collects particles deposited from the bile. This centre of mucus may be mixed with epithelium, or the stone may consist of epithelium alone. Around this nucleus a deposit of bile salts takes place, making the stone characteristically yellow, when it is fresh and before it has been exposed to the air.

I consider that there are two kinds of gall stones. The one form, light yellow, breaking with a peculiar fracture; the other form, like huckleberries, of a blue-black color. The latter are found in dissipated men, and I have seen them in seventy-five per cent. of the postmortems made in jails and places of that character. Mr. Harley published a case not long ago, in which the gall bladder contained between two and three hundred of these small, dark-colored gall stones, and yet the man who owned the gall bladder never had a symptom. The gall stone is connected, undoubtedly, in a great many instances, with cancer of the gall bladder.

Dr. Burns had spoken of primary cancer of the gall duct. I have not had the pleasure of seeing such a case, but, no doubt, any irritation from gall stones will produce a change in the lining

membrane, and may originate cancer. We, however, often find that gall stone is connected with cancer of the duct or cancer of the liver, and in such cases we look upon the cancer as the cause of the formation of the gall stones, or, as coincident with their formation. It is not necessary that the cancer should begin in the duct, but cancer beginning in the gall duct probably results from the injury due to the passage by gall stones, or the continued irritation produced by their presence.

A treatment adopted some years ago and used with considerable success where the stone was small, was the treatment of expulsion by external manipulation of the gall bladder for ten or fifteen minutes each day. It has been possible, in a great many instances, to expel from the bladder small gall stones by this method. In cases in which the gall stones slip merely into the orifice of the cystic duct, such manipulation may cause them to slip back into the gall bladder when the symptoms disappear, but pain recurs, and redistention of the bladder occurs.

A treatment was suggested some years ago, which I think is superior to morphia. When an attack comes on with severe pain, the usual treatment is to put the patient in a hot bath, to apply hot applications, and give morphia, but I believe belladonna, given in half-grain doses, is preferable to the morphine. Belladonna does not produce the bad after effects, and it relieves the pain.

As to the prevention of gall stones, I do not believe that there is any known preventive. I have lately had two or three cases of gall stones that passed out of my hands to a gentleman attending a hospital in a neighbouring city. In these cases he gave them very large doses of olive oil, and they came back apparently well, much to my chagrin. I do not believe in the oil treatment, and have not used it of late years, but here were three cases that came under my notice, undoubted cases of gall stones, that went to this neighbouring city, and came back cured, or they thought they were cured. So far as I can see, the oil was the source of the relief. When I speak of a preventive, I mean a specific drug that will prevent the formation of gall stones, and I believe there is none such. The best preventive is a large amount of exercise and the use of an occasional purge. Gall stones