both hands on the front of the abdomen immediately below the costal margins; the patient bends forward, placing his own hands on his knees. He is instructed to breathe deeply; at each expiration the examiner's hands sink more deeply into the abdominal walls; they not only sink inwards, but they rotate on their own axes, so that soon the ulnar edge lies more deeply than the radial and the tactile surface of the fingers is directed upwards.

Very soon the hands begin to approach the under surface of the stomach on the left, and of the liver on the right side; as soon as the tender gall bladder comes near the compressing right hand during inspiration, which forces the liver downwards, pain is experienced, and the act of respiration is abruptly checked; the pain is definitely referred to the right hand.

Pressure so applied is absolutely deflected from the kidney, which is not compressed. Any pain due to the duodenum or hepatic flexure is felt at first, and is not so definitely caused at a comparatively late period, or at a definite moment in the examination; nor has it any but a general effect upon the respiration, or the respiration upon it. This method of Murphy's will be found, as far as my experience goes, to be extremely reliable.

When, therefore, pain of a paroxysmal character referred to the right hypochondrium occurs, especially if it is associated with nausea or vomiting, it is well to test in this way, since, if the result is negative, we can at once, and safely, so far as my experience goes, eliminate the possibility of biliary calculi; the pain will be found to be due to other causes. If, on the other hand, it is affirmative, the only other condition which might produce it is uncomplicated inflammation of these biliary canals. Any one who has used this test in these two conditions will recognize at once the sharper, more acute pain and interference with respiration which occurs in the calculous cases, and is not, I think, likely to be misled. But, even if such a mistake should occur, no great harm will have been done, since drainage of these inflamed channels is by far the best treatment for such a condition, whilst it is also the best preventive against calculous formation in the future.

By means of this test, also, we may hope to detect calculi which are the real causes of many ill-defined affections at present frequently diagnosed as functional gastric disorders, and, by removing these concretions, rescue some sufferers from long-standing invalidism or persistent, unexplainable misery.

REFERENCES.

¹ BRITISH MEDICAL JOURNAL, 1898. ² Le Microbisme Biliare Normal et Pathologique, Paris, 1904. ³ Infections of the Biliary Tract, Amer. Journ. Med. Sci., September, 1906, p. 450. ⁴ Wien. klin. Woch., 1906, xviii, 884. ⁵ Grenzgeb. der Med. und Chir., 1903, xii, 677.

THE REMOVAL OF ENLARGED TONSILS.

By RODERICK MACLAREN, M.D.,

CONSULTING SURGEON TO THE CUMBERLAND INFIRMARY.

SOME recent communications to the JOURNAL on this subject have suggested to me to put on record a method of operation which I have employed for a long time.

Fifteen or twenty years ago I became dissatisfied with the two usual operations. Of these the removal by guillotine was the worst. As a rule it took a mere shaving off the face of the tonsil, leaving behind a varying amount of the gland, sometimes as much as two-thirds. The procedure was little under the control of the surgeon. It was hit or miss, and the result was often disappointing; the narrowing of the fauces for which the operation was done was sometimes very imperfectly relieved. It was far from unusual for temporary improvement to be followed by increased growth of the part left, and by a return to the stenosed condition. The operation by vulsellum and blunt-pointed bistoury was a little better. The gland could sometimes be drawn well out from between the pillars and effectively amputated, but not always. It was often attended by more hæmorrhage than was at all desirable. It was also wanting in precision. By thinking over these various disadvantages, I dropped into the way of operating described below. The results have been such as to satisfy me.

I always have a deep anaesthetic administered. The patient is laid on one side, that being chosen which best allows light to reach the back of the mouth. Occasionally but not often difficulty of removal is taken into considera-

tion. It is somewhat more easy to get at the tonsil which is on the lower side, and the patient may be so placed as to put lowest the side on which the gland is most embedded in the palate. The following instruments are required:

A Gag.—I use one which I had made for the purpose. Its bearing points are four bars placed in contact with the upper and lower bicuspid teeth on both sides. It is so contrived that it does not interfere with the use of instruments in the mouth. Generally it is self-retaining, but occasionally in a narrow mouth, or when teeth are deficient, it must be tied in place by a tape across the back of the neck.

A Straight Vulsellum.—This should have long teeth which guard each other when the blades are locked, and prevent the points catching where they are not wanted.

A Blunt Dissector.—The one I use has a blade $\frac{1}{4}$ in. broad. The point and edges will not cut. It is slightly curved on the flat. I first knew it as a periosteum elevator.

Two Pairs of Long Strong Forceps to hold tampons.

A Pair of Scissors curved on the flat.

An Ordinary Scalpel.

A Probe-pointed Bistoury.

The instruments necessary for curetting adenoid growths.

At one time a guillotine was always included, but presently it was left out as a rule, and only taken for an exceptional case. It does well under one condition, when the tonsil is attached by a distinct neck. This is unusual; generally the large tonsil is ensheathed in the mucous membrane of the soft palate, only a small portion of it protruding from between the pillars.

The operation is commenced by opening the mouth as widely as possible with the gag. The tonsil of the side on which the patient is lying is then caught by the vulsellum. The best grip is got by placing one blade on the nasal and the other on the laryngeal end of the tonsil. The tonsil is drawn inwards and forwards. If it comes out from between the pillars no knife need be used, but if a considerable part of it remains behind the palate a transverse incision is made to expose the gland thoroughly. This is done with a sharp-pointed scalpel from within outwards through the mucous membrane. It starts about the middle of the anterior pillar and is from half to three-quarters of an inch long, according to the size of the tonsil, which is made to bulge through it. At this stage, whether the mucous membrane has been cut or not, as much traction is put on the gland as it will bear and the blunt dissector is pushed behind it from above. It is then systematically teased out from its connexions. There is this distinct advantage in starting in this way, that it prevents the uvula being injured, as it might be if the gland were taken out from below. Most tonsils peel cleanly out with a smooth and rounded back surface. Much of the completeness and facility of the operation depends on the consistence of the gland. If it is firm the removal is easy, but if it is soft and bears traction badly it may be a matter of difficulty to get it out whole owing to the teeth of the vulsellum tearing through. Scissors or the blunt bistoury are very useful for a tonsil of this latter sort. It is first well loosened by the dissector, and then its final attachments snipped or cut.

When one tonsil has been removed it is advisable to wait for a few minutes to allow bleeding to diminish. The second tonsil is then dealt with in a similar way and adenoid growths and turbinate thickening attended to if necessary.

By this method there is only a very moderate amount of bleeding. I have not encountered troublesome hæmorrhage for many years; very occasionally it has been necessary to hold a tampon on the wounded surface which can be compressed between a finger outside and a pad within. This has always proved sufficient to control any active vessel till it closed in due course. The proximity of the internal carotid artery is a time-honoured surgical bogey. If the operation is done as just described there is no risk of injury to it. The dissection is kept close to the gland, which is turned cleanly out of its bed, and the traction which is exercised by the vulsellum tends to lift the tonsil away from the neighbourhood of the vessel.

The gland when thus removed never returns, and the operation definitely accomplishes the object for which it was undertaken.

There is generally discomfort and pain for two days after the operation, but by the third or fourth day these have much subsided. Healing is generally complete in about ten days.