solutions, with those of a considerable previous experience in the use of one- and two-per-cent. solutions of cocaine, I find that Schleich's weaker solutions are more satisfactory, for the reason probably that as the surgeon is freed from anxiety lest a poisonous dose of cocaine should be employed, sufficient solution is generally injected to thoroughly infiltrate the tissues, so that all the nerves supplying the part are anesthetized. The operations have usually resulted in little or no pain. Certain failures have been recorded. These can sometimes be ascribed to faulty technique, or to the application of the method in unsuitable cases.

The method is not suitable, in my belief, to extensive operations in inflamed and brawny tissues, owing in large degree to the mechanical difficulty of thoroughly and painlessly infiltrating all the inflamed area. Especially is this true when the inflamed tissues are tough, calloused, and richly interwoven with fascial fibres, such as abscesses in the palm of the hand and sole of the foot in laboring men. In these cases, I have found primary anesthesia to give the best results. On the other hand, a soft, pliable palm has often been infiltrated with perfect success.

Where the tissues are loose and spongy, even if considerable inflammation is present, the method is very successful. Felons of the fingers are opened and curetted, sequestra removed, amputations and all necessary manipulations performed, often absolutely without pain. The skin, connective tissue, and periosteum of the part must first be infiltrated beginning in the healthy tissue above the zone of inflammation. The saving of the time formerly required for etherization of these cases has been a marked benefit in the hurry of out-patient work; one less assistant at least is required, and the patients can walk home without waiting for the nausea and dizziness of ether to pass off.

In the performance of more extensive operations by this method, it has been found that the chief requisite for success is slow, careful, thorough infiltration of the tissues, the most scrupulous care being taken not to cut or roughly manipulate in tissue not thoroughly infiltrated. The surgeon must be ready to lay down the knife and take up the syringe on the slightest expression of pain by the patient. By carefully infiltrating the skin, mucous membrane and perirectal connective tissue, I was able to remove a large hemorrhoidal node by the clamp and cautery with insignificant pain to the patient. Stretching of the sphincter by the thumbs was attended with some pain, which the patient said, however, did not compare with that caused three days later by the first movement of the bowels which followed the operation.

I have been able to remove fatty tumors and epitheliomata, some of fairly wide extent, and other subcutaneous tumors, wens, etc., with the patient an interested spectator, and have been repeatedly told that the removal of the stitches at the end of a week or ten days, was more painful than the original removal of the tumor. Dr. J. C. Warren has successfully removed a fatty tumor of the abdomen, of the size of a cocoanut by this method.

In certain cases, however, in which the patient is of extremely nervous temperament, and cries out with apprehension before the knife touches him, I have found the method difficult to apply. When the patient feels such a horror of the knife as to express a wish not to know that anything is being done, then it is wiser, I think, to give ether.

With regard to the employment of infiltration anesthesia in major operations, laparotomies, and the like, which Schleich advises, the general verdict will, I think, be against him. Severe and difficult operations it is not wise to complicate further by the addition of the inconvenient necessity of constantly stopping the operation to re-infiltrate the operative field. It is also not always desirable in these cases to have the patient a witness to the mental and physical efforts of the surgeon, even if they be attended with no pain.

In cases, however, when the condition of the heart, shock, or the danger from vomiting (for example, strangulated hernia) render ether dangerous, the infiltration anesthesia is destined, I think, to be of immense advantage. Here the surgeon is not justified in regarding the slight inconvenience of maintaining local anesthesia, in comparison with the great advantage of doing away with the general anesthetic. And by the infiltration method properly applied, without the danger of giving a poisonous dose of cocaine, a much more satisfactory local anesthesia of the operative field may be attained.

There is no reason why such operations as kelotomy for strangulated hernia, tracheotomy, resection of a rib for empyema, for instance, cannot be performed under infiltration anesthesia with little or no pain to the patient, and there is every reason why, this being true, the use of ether in cases of this class where it becomes a serious complication, should be avoided.

In regard to the practical advantages of Schleich's method of local anesthesia, then, we can say that it has increased the safety and certainty of success in the employment of local anesthesia in minor operations, and that it has made possible the safe and comparatively painless performance of major operations in which for any reason a general anesthetic is contraindicated or undesirable.

The advantages of the general anesthetic in long and complicated operations, and even in short operations where muscular relaxation is desired—for instance, the reduction of dislocations, or of deformities due to fracture, etc.,—are so great that we cannot agree with the discoverer of the method that it is destined almost to displace the use of general anesthesia.

TUMORS OF THE PAROTID APPEARING IN FAUCIAL REGION.¹

BY S. J. MIXTER, BOSTON.

CASE I. J. W. H., machinist, entered Massachusetts General Hospital September 6, 1894. Had no symptoms pointing to trouble in the throat until a few days ago, when he consulted a physician on account of a severe cold, and was told that he had a tumor in the throat.

On examination a rounded mass, apparently about as large as an olive, was seen projecting into the left and upper side of the mouth, being apparently between the layers of the soft palate. It was elastic, tense and not at all painful.

The patient was etherized, and a transverse incision made through the mucous membrane down to the tumor, which proved to be a solid mass which could be easily shelled out from the surrounding tissues. In-

¹ Read before the Surgical Society of the Suffolk District Medical Society, December 4, 1895.

stead of being the size of an olive, however, it proved to grow larger behind, and was found to extend back to the neck of the jaw. It was quite easily separated by means of the finger and blunt dissector, and when delivered was considerably larger than a hen's egg.

The patient made a good recovery.

Dr. Whitney reports as follows: "An irregular oval tumor about five centimetres in long diameter, dense, opaque, whitish, with here and there bluish-white areas quite transparent. On microscopic examination it was seen to be composed of irregular glandular areas, interspersed with tissue having a more or less hyaline matrix filled with irregular star and elongated cells. Adeno-chondroma, probably of parotid."

CASE II. Mrs. C., about thirty-five years old, a patient of Dr. Hitchcock of Rockland, Me., was operated upon on September 29, 1895. She had had a slowly growing tumor of the fauces for some years, and it had at last become so large that it seriously interfered with speech and deglutition. On examination a mass was seen projecting from the left pillar of the fauces extending nearly across the mouth and resting on the tongue—hard, somewhat nodular, and covered with smooth mucous membrane. Having seen the first case, the diagnosis in this was an easy matter.

Ether was administered with difficulty, owing to the size of the tumor, which so nearly filled the mouth. A gag having been placed in the mouth, an horizontal incision was made through the mucous membrane well down to the tumor, and the handle of the knife was used to push back the soft parts covering it. The tumor was then seized with vulsellum forceps, and the finger was used to enucleate it. A few sweeps of the finger, and it was free and delivered. There was very slight hemorrhage, and the wound was packed with iodoform gauze. The recovery was uneventful.

The tumor was a firm, heart-shaped mass, about two and a half inches in longest diameter. Dr. Whitney reports that microscopic examination shows it to be made up of hyaline cartilage with masses of proliferating gland tissue scattered through it, and evidently originating in the parotid.

In both these cases, when the finger was in the bottom of the wound, the neck of the lower jaw, the external carotid and the transverse processes of the cervical vertebrae could be plainly felt.

Cartilaginous tumors of the parotid generally appear as external swellings in front of, or below the ear, or even on the cheek near the mouth, when they start from one of the small portions of the gland that are sometimes found well in front of the seat of the gland. How, then, can we account for their presence in the mouth, and covered by the soft palate? It must be remembered that one of the deep processes of the gland is situated in front of the styloid process, and passes into the back part of the glenoid fossa behind the articulation of the lower jaw. A tumor starting at this point would meet with less resistance in growing forward and into the mouth than outward towards the face.

Bosworth, in "Diseases of the Nose and Throat," says, "we find but seven instances reported in medical literature of a fibrous tumor developing in this region" (fauces). These seven cases he reports in full; and on reading them, one finds that nearly all of them correspond almost exactly to the two cases reported above; and as the diagnosis of fibroma was made in nearly every case from gross appearances it seems highly

probable that most, if not all, of them were really tumors starting from the parotid, and some of them being enchondromata and not fibromata.

Clinical Department.

A CASE OF FRACTURE OF THE UPPER END OF THE HUMERUS JUST BELOW THE TUBEROSITIES, WITH DISLOCATION OF THE HEAD OF THE BONE INTO THE AXILLA.¹

BY GEORGE H. MONKS, M.D.

A MAN of about fifty fell down stairs, striking heavily on his left shoulder. He had evidently sustained considerable injury to his shoulder, and was taken to the City Hospital at once. The external appearances about the shoulder were those of dislocation of the humerus. Ether was therefore administered by the house-officer, and an examination made. It then became evident that the head of the bone was broken off from the shaft, and displaced into the axilla, where it could easily be felt and moved about. Its fractured surface rested against the thorax. While the patient was still under ether I was sent for, and reaching the hospital soon after, I tried by manipulation to return the fragment to its proper place again, but without avail. It was therefore decided, after consultation with Dr. D. W. Cheever, to allow the man to come out of ether, in order to explain to him the exact condition of the shoulder, the necessity for operation, etc., and, after having obtained his consent, to cut down upon the head of the bone, and again attempt reduction.

The next day, therefore, the man's consent having been obtained, ether was again given and an incision made into the axilla down to the displaced head of the bone. The fragment was freely movable, but by combined manipulation it could not be returned to the glenoid cavity. The fragment was therefore drawn out through the wound and a tendon, which was apparently the only structure to which it was attached, was divided and the fragment removed. [This tendon, as was proved later, was that of the subscapularis muscle, a fact which explains why the head was drawn inwards into the axilla, and could not be returned to the glenoid cavity.] The forefinger was then inserted through the rent in the capsular ligament into the shoulder-joint, but no other fragment could be found—only the roughened end of the shaft. The axillary wound was then stitched with silkworm-gut. All did well for two days, when abdominal distention appeared, as well as other serious symptoms; and the man died four days after the operation.

An autopsy was made by Dr. Councilman, but the cause of death could not be determined with certainty. There was nothing about the seat of fracture to suggest a cause, and the wound in the axilla was apparently healing by first intention.

The shaft of the humerus was removed and cleaned, and *also one small fragment* (the greater tuberosity). The head of the bone, which had been excised at the operation five days previously, was then fitted to the fragments removed at the autopsy, and the specimen as a whole carefully examined. There were two main

¹ Specimen shown and case reported at the meeting of the Surgical Section of the Suffolk District Medical Society, December 4, 1895.