TECHNIQUE FOR ENUCLEATION OF TONSILS WITH LOCAL ANESTHESIA; REPORT OF TWO INTER- ESTING CASES WITH PLEASING RESULTS.

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Before describing the technique of the operation, we will briefly mention the determining factors in deciding whether the operation shall be done under local or general anesthesia. Every case is a law unto itself, and no hard and fast rule will apply to all cases.

The age of the patient is obviously a deciding factor. We do not attempt local anesthesia on patients under fourteen years of age. Patients of an extremely nervous temperament, with sensitive throats that gag easily, should have a general anesthetic, providing their physical condition will permit. A patient should not be persuaded against his will to have a local anesthetic.

Our experience and observations convince us that a larger percentage of adult patients—probably ninety per cent—can have their tonsils removed successfully and without pain under local anesthesia. This view is contrary to that of some of the leading laryngologists in this country. Crowe, of Johns Hopkins, says a complete tonsillectomy can only be done under general anesthesia. He is unquestionably wrong. Coakley, of New York, also advocates general anesthetic in all cases, while Lille, of the Mayo Clinic, and Gatewood, of New York, are advocates of local anesthesia.

Local anesthesia certainly possesses many distinct advantages over general anesthesia, both to the patient and operator. The patient is not subjected to the risk of contracting an ether or septic pneumonia; he is not nauseated following the operation and the shock is much less. The operator has the advantage of working in the natural position and with better illumination. The performance of the operation under local anesthesia requires a simpler technique, though a greater degree of dexterity, than under general anesthesia.

Before describing the technique of the operation we wish to say a word in regard to the methods of examining tonsils. The problem of properly examining tonsils has been foremost in our minds for some time. We do not believe that there is any special examination required of the internist and general practitioner which is performed in a more perfunctory manner than the examination

of tonsils. It is the "silent intruder" that confronts the internist, for when a patient comes direct to the throat specialist, he usually comes with his diagnosis "pinned on him," as he has subjective symptoms of the source of his trouble. We feel that it is the duty of the throat specialist in every community to instruct the internist and general practitioner in the proper procedure for an intelligent examination of the tonsils. Not infrequently patients come under our observation with definite clinical symptoms which point to a focus of infection. When getting the history they will say, "My tonsils are O.K., as my physician told me so." When inquiring as to how the physician made his diagnosis, the patient's reply is that "he looked at my tonsils." Here we wish to emphasize the fact that the size of the tonsil or the absence of a history of tonsillitis does not have any bearing on the condition of the tonsil, and in no way eliminates the tonsil as a focus of infection.

We use the Hurd tonsil evacuator for examination of tonsils. It consists of a glass canula with an opening large enough to fit the tonsil. The canula is about twelve inches long, and is slightly curved near the opening. It is connected to a small rubber bulb by a piece of rubber tubing about twelve inches long.

To use the evacuator, have the patient open his mouth, compress the rubber bulb firmly, and then place the opening of the glass canula over the tonsil, and, at the same time, release the grip on the rubber bulb. The suction thus produced draws the tonsil up into the mouth of the glass, and if any pus, or "cheesy material," is in the tonsil it will readily be seen.

Patients having definite symptoms which are referable to a focus of infection, and where all other examinations are negative, and no evidence of infection is revealed by use of the evacuator, we then take a culture from each tonsil before deciding that the tonsils are not diseased. This is done by first applying alcohol to the outer surface of the tonsil to prevent surface contamination, then a sterile platinum wire is introduced into the crypts or substance proper of the tonsil, and then streak the culture media with the platinum point and incubate to see if a growth is present. If we get a pure culture we feel that our technique was properly carried out.

To our minds it is just as important for the internist to be able to discover the presence of pus in the silent tonsil as it is for him to make an early diagnosis of carcinoma of the stomach or incipient pulmonary tuberculosis.

Having decided that the operation is to be done under local anesthesia, we send the patient to the *hospital always*. In case

the patient refuses to go to the hospital we refuse to operate elsewhere. Every case, whether operated upon under local or general anesthesia, is given a careful examination including a record of his blood pressure and a *blood coagulation test*.

Twenty minutes prior to the operation the patient is given a hypo. of morphine sulphate, grs. 1/6, with atropine sulphate, grs. 1/180. This is given while the patient is in his room. At the end of twenty minutes the patient is brought to the operating room on a carriage and is placed on the operating table in a semi-reclining position. A small amount of ten per cent cocaine on a cotton applicator is applied on the posterior two-thirds of the tongue and the outer surface of the tonsils. Care is taken not to permit the cocaine to run down on the posterior pharyngeal wall.

A solution of one per cent novocaine or procaine, four drachms containing ten minims of 1/1000 adrenalin chloride is prepared. This should suffice for both tonsils. We use the Gatewood needle, which is a long, straight one, for injecting. We first inject the base of the tonsil deeply, as this is the most sensitive part. We then make one injection between the posterior pillar and the tonsil, one at the superior pole of the tonsil going between the tonsillar tissue and the mucous membrane of the plica triangularis. The fourth and last injection is between the anterior pillar and the tonsil, care being exercised to never injure the pillars when injecting. The right tonsil is injected first, and the left in a similar manner. As soon as we are through injecting the left tonsil the right one is anesthetized sufficiently for us to begin work.

THE OPERATION.

The right tonsil is grasped with curved, narrow-bladed mouse-tooth scissor handled forcep, whose blades are about two inches long. One of the most important steps in the operation is to secure a firm and secure grasp on the tonsil. This is best done by firmly planting the upper blade of the forceps into the capsule, just below the superior angle of the converging pillars, and the lower blade of the forceps is inserted to the same depth, seizing the inferior flexion of the capsule, and then lock the handles. Traction is made on the handle of the forceps, thus pulling the tonsil up and out. right hand, we make a small niche at the junction of the tonsillar capsule with the converging pillars at the superior angle, then insert the closed ends of the scissor blades into the opening thus made and separate the posterior pillar carefully and completely from the capsule of the tonsil, then with the blades of the scissors opened, the right blade of the scissors is carried around the anterior surface

of the tonsil, thus separating the mucous membrane of the anterior pillar from the capsule of the tonsil. Now evert the tonsil, and if it is not lifted from the fossa, the dissection can be completed by placing the Hurd tonsil separator behind the capsule of the superior pole and gently lifting the tonsil up, making firm traction on the tonsil forceps at the same time. After completing the dissection, the pedicle of the tonsil is snared off with the Tyding snare. The left tonsil is removed in a similar manner. The right tonsil is grasped with the forceps in the right hand and the left tonsil with forceps in the left hand.

As a rule the patient does not lose more than a drachm of blood from both tonsils. The hemorrhage, if any, is controlled by making gentle pressure with a very soft sponge, leaving the sponge in the fossa for three minutes, which is the time required for blood to coagulate. We rarely, if ever, find it necessary to clamp a bleeding point and have not yet been forced to tie off a vessel.

We cannot condemn too strongly the attempt on the part of some operators to do the spectacular, or so-called bloodless, tonsil operation, which is done by seizing every oozing point with an artery clamp. This procedure is not necessary to control the hemorrhage and, besides, it produces unwarranted traumatism in the throat, and always leaves an eschar.

After all oozing has stopped and remained so for at least five minutes, we then supply a small amount of a $3\frac{1}{2}$ per cent iodine solution to each tonsillar fossa. Now the patient is placed on the carriage and rolled back to his room. The ice bag is immediately applied to the patient's neck. The patient is kept on his back for at least twenty-four hours, and in some instances, longer. Three hours following the operation the patient is given a hypo. of morphia sulphate, grs. $\frac{1}{8}$, whether he is in pain or not, for it serves to keep the patient quiet and restful, thus relieving the constant fear of hemorrhage, which most patients possess following the operation.

Since adopting the above mentioned technique, and the strict routine of operating on all cases in the hospital, we have been fortunate enough not to have a single postoperative hemorrhage in a series of sixty cases. Not once have we resorted to the use of the artery clamp for the control of hemorrhage. However, we do not wish for anyone to assume that we will not in the future have post-operative hemorrhages, but what we wish to emphasize is that our hemorrhage cases have been reduced to the extreme minimum by following the described technique, and by carefully exam-

ining our cases before operating. We wish also to lay particular stress on the importance of taking the blood pressure and doing a blood coagulation test in all cases.

We cannot possibly register our disapproval too strongly of the practice of some operators in operating on patients in their office, and then permitting the patient to go to his home or hospital under the care of a relative or friend who is not trained to care for the patient should a complication arise, which is highly probable.

So much has been written, and so much evidence has been successfully adduced to show that the tonsils may serve as a portal of entry for general infections such as arthritis, cardiac, and renal conditions, etc., that the mere narration of additional cases will be useless. We wish to report two cases of unusual interest.

Harry K., aged 24, came under our observation August 18, 1919, and gave the following history. Two years ago patient became hoarse gradually. Hoarseness was worse during winter months. No history of syphilis or T. B. Slight cough at times. Has been in the U. S. Army in France for past two years. Has gained weight during past year. Special examination: Nose O. K. Sinuses O. K. Tonsils ragged in appearance, and pus escaped from each tonsil when the Hurd tonsil evacuator was applied. The vocal cords were red and inflamed and beefy in appearance. Mucuous membranes of trachea red and inflamed. Tonsilectomy was advised and was performed under local anesthesia August 18, 1919. The patient returned to his home in the country August 23rd, and was instructed to return in a month for further observation. To my pleasant surprise the patient walked into my office six weeks later with a voice as clear as that of a Metropolitan Opera Singer. The contrast was most striking, as the patient could scarcely speak above a whisper when first seen, and had been that way for nearly two years.

William S., aged 35, came under our observation September 1, 1919, and gave the following history: Three years ago had incipient pulmonary T. B. Has lived an outdoor life since, and the pulmonary lesion was promptly arrested. Complains now of a "hacking" feeling in throat. Went to a lung specialist recently for examination on account of having night sweats and a tired feeling all of the time. No active lesion was present in the lungs. He was advised by the lung specialist to have his tonsils examined. Special examination revealed hypertrophic rhinitis, tonsils small and submerged. Cheesy material escaped from each tonsil when the Hurd tonsil evacuator was applied. The patient stated that

for the past two years he has been forced to get up two to four times each night to change his nightgown on account of the profuse night sweats. The patient's special examination was negative other than the diseased tonsils. Tonsillectomy was advised, and performed September 6, 1919, under local anesthesia. It has now been a month since the operation, and the patient has not had a night sweat since his tonsils were removed.

Two very striking points are to be noted in these cases: First, neither gave a history of tonsillitis; second, both had passed through the hands of several physicians before attention was directed to the tonsils as being the exciting cause of their trouble.

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HOARSENESS, CAUSED BY THYRO-ARYTENOID INTERNI PARESIS WITH SYMPTOMS SIMULATING ACUTE PULMONARY TUBERCULOSIS DUE TO A SINUS INFECTION.

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When a case presents itself to the physician with symptoms such as rapid loss of weight, persistent cough, night-sweats, daily rise of temperature, occasional rigors, anorexia, insomnia and a voice scarcely above a whisper, the above symptoms certainly have a few of the ear-marks of pulmonary tuberculosis, especially when an examination of the lungs bring out a slight change in one or the other of the apices. These symptoms in connection with the interpretation of a lung radiograph as highly probable of tuberculosis caused considerable alarm to the patient whose case I am about to report.

G. D., male, 30 years of age, referred by Dr. A. C. Henske, who some four weeks previous to seeing Dr. Henske had contracted a cold which gradually became worse. He consulted physicians for the relief of his hoarseness, loss of weight, chills, daily rise of temperature, persistent dry cough and loss of appetite.

After a most thorough lung examination by an exceedingly capable man an X-ray of the chest was thought advisable. The interpretation of the same made the diagnosis of pulmonary tuberculosis