

most unfavorable influence on the smooth healing of wounds. Iodoform gauze, unless it be very strong, is little better than plain gauze in this respect. It may remain fresh and sweet for forty-eight hours, but if left *in situ* any longer it becomes very fetid, especially in the presence of the increased secretion stimulated by the irritating presence of sutures in the vagina. The odor of iodoform itself is objectionable to many people. In addition, one is never certain that, given a raw area and a duly susceptible patient, symptoms of iodoform poisoning will not supervene. Moreover, the iodoform gauze as put up in sealed tubes for use in private practice is quite expensive.

For the past four months, in the gynecologic service of Dr. Florian Krug at Mount Sinai Hospital, we have been using gauze impregnated with subnitrate of bismuth, with highly satisfactory results. It is prepared by taking 2 ounces of bismuth subnitrate, 2 ounces of glycerin, and 1 quart of water. The bismuth and glycerin are very thoroughly mixed, warm water is gradually added and the mixture is continually stirred so as to make a fine emulsion.

A portion containing about 21 yards of gauze is passed slowly through the emulsion three times so that it becomes thoroughly soaked, and is then wrung out. After the gauze is dried it is cut into strips of desired size, loosely packed, and sterilized by steam at seven or eight pounds' pressure for thirty minutes.

The above strength has proved sufficient for our purposes; it could be considerably increased without harmful effects should the occasion warrant it.

The gauze so prepared is snowy white in color, odorless, soft and smooth. There are no grains of powder macroscopically visible on it. From plain unmedicated gauze it differs only in its intense white color and in being smoother and softer to the touch. From iodoform gauze it differs in being odorless, absolutely non-toxic in the quantity used in any one case, much softer, less irritating, and less expensive. (Bismuth subnitrate is from 30 to 40 per cent. cheaper than iodoform.) Finally, it is far more efficient in its action.

I have used it in a great many cases, and have found that after incomplete abortions, curettages, plastic operations on the cervix and vagina, and aseptic vaginal celiotomies, it can be left in the vagina for a week, if desirable, and on removal it is still perfectly sweet and odorless.

The mucosa is pale and unirritated, and there is none of the stench so distressing to the patient and all concerned. The advantages are obvious.

It should be noted that the gauze has not the power of deodorizing foul-smelling pus. When, for instance, a pelvic abscess containing foul-smelling pus is opened and drained by a postvaginal section, the gauze has little or no power to mitigate the fetor. In aseptic cases we have, after extended trial, found it almost ideal and can heartily recommend its use to others.

Its uses in other fields of work will readily suggest themselves.

67 West Eighty-ninth Street.

Cow's Milk.—Cow's milk is the only food supply apart from mother's milk available in this country, from a practical standpoint, for the nourishment of infants under 1 year of age. It forms, besides, a large part of the dietary of older children and of many adults. It is consequently of the utmost importance, in view of its perishability, that it should only be used as a food under conditions which will insure its wholesomeness.—J. W. Schereschewsky, in *Annals of Medical Practice*.

SARCOMA OF THE TONSIL

REPORT OF A CASE, WITH REMARKS ON THE TECHNIC OF THE OPERATION *

JOHN E. SUMMERS, M.D.

OMAHA

The relative infrequency of sarcoma of the tonsil and the apparent hopelessness of the patient prompt me to write this paper.

History.—E. M., Wood River, Neb., Dane, aged 48, farmer, single. Family history negative; no history of injury; no previous history of sickness that would have any bearing on present condition. The patient entered Omaha General Hospital, Jan. 6, 1908, with the following story: In June or July, 1907, he noticed a slight "fulness" or "swelling" of the left tonsil; not enough to trouble him particularly, and not enough to have remembered, had not subsequent developments caused him to recall early symptoms. This condition continued until the early part of November, 1907, the "fulness" and "swelling" gradually but slowly becoming more pronounced. From November until the time of presentation for assistance, the swelling had enlarged quite rapidly, and worried the patient a great deal. At no time had he detected enlargement of any of the cervical lymph nodes, and at no time did he suffer from pain.

Examination.—The patient was pale and had an anxious expression. Examination of the throat showed an enlargement of the left tonsil to such extent that it almost filled up the pharynx, there being only a narrow chink between the right tonsil, the right pillars of the fauces, and the border of the new growth. There was an ulcerated necrotic area of the tumor, about the size of a quarter, which had ulcerated through the soft palate to the left of the median line. The jaws could not be widely separated; the tumor could be distinguished below the angle of the jaw, and a few enlarged lymph nodes could be felt below the tonsil in the carotid triangle. The man had been refused operation by several surgeons, as the growth was considered too advanced to make the hazard of operation justifiable.

First Operation.—After the usual preliminary antiseptic treatment of the mouth and throat, the patient was operated on, Jan. 9, 1908. Briefly, the technic employed was: (1) ether anesthesia, ligation of the left external carotid artery, and (2) a prophylactic laryngotracheotomy (division of the cricoid cartilage and the upper three tracheal rings). The cricoid cut being held wide open, gauze was packed into the wound above the tube, to prevent leakage of blood into the bronchi. The anesthesia was continued by having a piece of cotton clamped in a forceps kept moist with chloroform and held over the opening in the tracheal cannula—my usual technic whenever I am doing extensive bloody operations about the throat, as, for instance, for malignant disease of the tongue and floor of the mouth and larynx. With the head and shoulders elevated, the cheek was split from the angle of the mouth to the angle of the jaw, joining a curved incision around the angle of the jaw. The jaw was divided. The wound was widely retracted and there was no difficulty in excising the soft palate and in enucleating the tumor, which was distinctly encapsulated. The wound was closed in inverse order to the method of making it, the mouth being shut off from the wound cavity by suturing in such a way as practically to limit the drainage through the external wound.

Convalescence was uninterrupted, but slow because of the man's run-down condition. At the end of six weeks a Crile block operation was carried out; union was *per primam* and the man returned home and renewed his occupation of a farmer.

Second and Third Operations.—Feb. 6, 1909, the patient returned with a recurrence at the site of the tonsil. This was removed through an external incision without opening the mouth, and again, April 27, the same kind of recurrence and the same kind of a removal.

* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The man is now in good condition. He has no pain and has a good appetite. Had he not been operated on in January, 1908, he would have been dead more than one year ago. He is not cured, but even now the outlook is not hopeless.

Pathologic Report.—Dr. Paul G. Woolley describes the tissue from the tonsil, removed at operation, as follows: "Celloidin shows that the tissue is composed of a very cellular growth made up of polymorphous cells, thin-walled blood vessels and vascular spaces, and supplied with a well formed intercellular reticulum. One portion of the tumor, that forming an ovoid nodule, is somewhat edematous, and is more richly supplied with vessels than is the deeper layer, which is composed of a more compact mass of cells. Running in all directions in the former portion are strands or columns of spindle-cells, between which lie the polyhedral cells that immediately surround the vascular spaces in such a way as to suggest a perithelial origin. This is, however, I believe, merely a suggestion, for in the more cellular parts there is no such indication of vascular origin. The tumor is a sarcoma composed of polymorphous cells."

My special object in directing attention to the surgical technic in attacking tumors of the throat is to emphasize the importance of two points, viz., early diagnosis, and the thorough, radical removal of the growth together with the lymph nodes, whether apparently healthy or diseased. I advocate most strongly, for the throat and neck, the kind of operative attack which has added so many years to the lives of sufferers from cancer of the breast. Prior to the general adoption of the Halsted operation for cancer of the breast, almost every patient suffered a recurrence and died. The percentage of cures following operation for malignant disease of the tonsil is necessarily lower than in cancer of the breast because of the more early lymphatic involvement; yet statistics in this operation will improve when an adoption of the "block" technic of Crile is more general. Crile, in speaking of this, makes a comparison of the results in his own practice in a series of ninety-six cases of malignant disease of the type under consideration, i. e., cancer of the neck and throat, the operation being done under usual methods, giving a three-year limit; over 28 per cent. of the patients remained free from recurrence.

In a series of thirty-six operations under the "block" system, 52 per cent. of the patients are living and free from recurrence.

In considering the mortality of the operation for removal of malignant growths of the tonsil, we must first remember that the early diagnosis, when the neoplasm is confined to the tonsil itself and has not spread to contiguous parts (as the base of the tongue, palate, pillars of the fauces, upper part of the larynx, the pharynx) is the key to the prognosis. In epithelioma this spreading is very rapid, and in sarcoma of the small-celled variety almost equally so. In the other sarcomata, there is little disposition to spread early; in fact, the growth may for some months be encapsulated, and it is in this variety that glandular involvement is also much later manifest.

Mr. Butlin gives the histories of fifty-four patients' cases on whom operations of various severity were performed.

Died of the operation.....	14
Alive or dead with recurrence (in mouth or glands). ..	20
Died of cancer elsewhere.....	3
Well from one to three years.....	8
Well more than three years.....	9
Total	54

These statistics are most encouraging, as all previous work had been extremely discouraging, nearly all cases

having proved fatal as in the earlier operative treatment of cancer of the breast. Now, if we can add the additional improved technic of the "block" operation applied to malignant disease of the tonsil, diagnosed early, the outlook will be still more encouraging. It is only essential to mention the lines of attack.

1. Through the mouth.
2. By incision in the neck—lateral pharyngotomy.
3. Combined operations, through the mouth by splitting the cheek, and lateral pharyngotomy.
4. Median or trans-hyoid pharyngotomy. Lateral pharyngotomy. Division or resection of the jaw. Ligation external carotid. Tracheotomy. Combined operation or removal of the glands two weeks to two months later.

I agree with Mr. Childe, that the tonsil should be dealt with first, after ligation of the external carotid. If the reverse procedure is carried out and the "block" operation is performed on the lymph nodes first, the resultant scars may obliterate the anatomic guides to such a degree as to render exceedingly difficult the attack on the tonsil by means of a pharyngotomy.

Fifteenth and Dodge Streets.

ABSTRACT OF DISCUSSION

DR. MILES F. PORTER, Fort Wayne, Ind.: I have had one unusual experience in dealing with malignant disease of the tonsil; involving the fauces. The case was apparently hopeless, but the individual is now symptomatically cured as a result of the combined use of the toxins and the injection of boiling water.

This shows that there are patients who are beyond hope of cure by radical operation who can be relieved and occasionally cured by the use of boiling water and the toxins.

DR. H. S. WIEDER, Philadelphia: Dr. Summers' paper brought out two points, especially with reference to sarcoma of the tonsil.

First, in sarcoma of the tonsil, not following the usual rule of sarcoma, there is almost invariably involvement of the lymph glands below the jaw and down the side of the neck. That is in opposition to the usual course of sarcoma, which usually travels by way of the vascular system. The tonsil being a part of the lymph system and being rich in lymphatics which empty into the lymph vessels of the neck, early metastasis to the neck takes place.

The second point I refer to is the fact that there are early recurrences in sarcoma. If the recurrence does not take place within a year or two, one can feel a comparative amount of safety, although one case has been reported in which recurrence took place as late as nine years after operation; this is the exception, however. In carcinoma one cannot feel safe, even after the lapse of three years.

DR. J. E. SUMMERS, JR., Omaha: Dr. Wood had two cases, but they were of a different type from mine; in fact, I could not quite see some of his points; therefore, I was unable to use his work. Dr. Warren read a paper at the International Congress of Surgery, at Brussels, in which he collated all the cases of cancer of the floor of the mouth, tongue, tonsil, etc., that occurred in the Massachusetts General Hospital during a number of years. There were four cases of sarcoma of the tonsil, and all the patients died. The point I wanted particularly to bring out was that we must make an early diagnosis and operate promptly.

Books on surgery and laryngology do not say how to make the attack. To prevent a recurrence of the growth the surgeon must do just as he would in cancer elsewhere, e. g., cut out all the diseased tissue. Formerly we believed that cancer was a constitutional disease. Why? Because surgeons removed the breast and the tumor recurred. Therefore, it was a constitutional matter. Remove the local growth carefully; go away outside of it. Do a Crile block operation on the lymph nodes in the neck. In a case like mine, considering how much has been accomplished by this method, I think that it is good practice.