

ance, save for the profound atheroma of the blood vessels, especially at the base of the brain.

"The ethmoid sinuses on the right side were quite full of inspissated pus resembling cottage cheese. The right frontal sinus was full of liquid, creamy pus. The sphenoids were continuous and full of inspissated pus enclosed in a membranous sac which did not open into the nose. The left frontal sinus was clear. The left ethmoid sinuses were quite full of pus and there was an opening through the outer wall into the left orbit, and in the left orbit was found a collection of thick pus which bathed the nerves and vessels. There was no exophthalmos of either eye. There were openings from the left ethmoid directly into the left antrum and the latter was full of pus. Its posterior wall was broken down, and this allowed the pus to bathe Meckel's ganglion.

"Cultures of the pus showed pure *staphylococcus pyogenes aureus*."

16 East 54th St.

40 East 41st St.

LARYNGECTOMY FOR EPITHELIOMA.

DR. H. ARROWSMITH, Brooklyn, New York City.

Mrs. A. S., a widow, was admitted to the service of Dr. Purdy H. Sturges at the Methodist Episcopal Hospital in Brooklyn, January 14, 1917, complaining of dysphagia and spasmodic cough. The cough was worse at night or when lying down. It may be of interest to state that the patient dated the beginning of her symptoms to 1892, twenty-five years ago, and stated that the difficulty in swallowing and cough had been gradually increasing in severity since then. She had not, however, previously consulted a physician.

Physical examination on admission revealed a cauliflower growth, in size about one and one-half centimeters in its greatest diameter, involving and projecting from the right arytenoid posteriorly, accounting for the dysphagia, and also extending across the median line toward the left arytenoid. Both vocal bands were apparently normal. There was no involvement of the ventricles. There was no hoarseness. There was no involvement of the cervical glands.

It was decided to remove a portion of the growth for microscopical examination and diagnosis and this was done at once under cocaine anesthesia and suspension. The pathological report showed the growth to be a squamous-celled epithelioma.

Dr. Sturges consulted with Dr. Robert Abbe in regard to the advisability of treatment by the use of radium. As the result of a combined examination by Dr. Abbe and Dr. Voislowsky at St. Luke's Hospital, Dr. Abbe suggested the removal of the growth as thoroughly as possible down to normal tissue and then, after an interval of ten days, the use of radium.

On February 24, two weeks after the removal of this section, the patient was readmitted to the hospital and on the following day, by invitation, under colonic oil-ether anesthesia, I suspended the patient and removed as much as possible of the growth. A preliminary tracheotomy was performed by Dr. Sturges to facilitate the later use of radium and as a safeguard in case of edema following the operation.

At the time of this operation, which followed the removal of the specimen for microscopical diagnosis after an interval of only two weeks, the growth was seen to have more than doubled in size and in view of this fact it was decided by Dr. Sturges and myself that the patient's chances for permanent cure demanded a complete removal of the larynx and plans were accordingly made to do it.

Ten days later, again under colonic oil-ether anesthesia, a laryngectomy, after the method of Keene, was performed by Dr. Sturges. The Keene technique was somewhat modified and slightly complicated by reason of the previous tracheotomy wound. The growth was found to have infiltrated the upper anterior portion of the esophagus in relation with the cricoid cartilage and about one and one-half centimeters of this was removed. A nasal tube for purposes of feeding was introduced previous to suturing the opening in the esophagus. The performance of the operation was greatly facilitated by the use of colonic oil-ether anesthesia and the operation was completed in fifty-five minutes, the patient leaving the table in very good condition.

The post-operative recovery was uneventful except for a hypostatic congestion of the lungs on the eighth day, which lasted for three days. These three days were the only ones during which she was annoyed in any way by mucous accumulation or tracheal secretion.

No difficulty was encountered in properly nourishing the patient. She was given liquid nourishment through the nasal tube for ten days, when it was permanently removed. Following the removal of the tube there was some discomfort in swallowing, which disappeared in two or three days. She was allowed up and out of bed on February 23, eleven days after the operation.

170 Clinton Street.