

PATIENT INFORMATION:

Name: John Smith

Sex: Male

SSN: 178-21-7084

Medicare Number: 9876543

TITLE OF OPERATION:

Direct laryngoscopy, bilateral modified neck dissection and total laryngectomy.

INDICATIONS FOR SURGERY:

This is a 37-year-old white male who has a bulky supraglottic cancer with bilateral nodal metastases. He is to undergo surgical treatment with curative intent.

PREOPERATIVE DIAGNOSIS:

T3, N2c squamous cell carcinoma of the supraglottic larynx.

POSTOPERATIVE DIAGNOSIS:

T3, N2c squamous cell carcinoma of the supraglottic larynx.

ANESTHESIA:

General endotracheal anesthesia.

FINDINGS: There were large, greater-than-2-cm nodes in both the jugular sheaths in level 2 and 3. There were small nodes in the left level 5. The tumor in the larynx extended along the entire length of the left false cord and eroded the arytenoid and the thyroid cartilage with extension into the base of tongue and the base of the left piriform. Frozen section was taken from the left base of tongue and left piriform and were negative for tumor.

DESCRIPTION: In the supine position, general anesthesia was induced and the patient was intubated without difficulty. The Dedo laryngoscope was introduced and the larynx, hypopharynx were inspected, noting the extent of the tumor. The the neck was prepared with alcohol and 1% Xylocaine with epinephrine 1:100,000; a total of 10 cc was injected into the planned apron-flap incision. The decision was made to elevate a platysma flap on the right side, and so a football-shaped skin paddle, approximately 5 x 4 cm, was outlined. The superior edge of the paddle was incised and taken down to platysma, and the skin overlying the platysma was elevated. Then the inferior edge was incised and the subplatysmal flap was elevated on the right side. The

subplatysmal flap was kept moist in saline, and it was kept until the end of the case.

A right-sided, modified neck dissection, sparing jugular, exposed, dissecting on its superficial and deep surface, and identifying the spinal accessory nerve as it emerged from the deep surface up to the skull base. The spinal accessory nerve was identified leaving Erb's point and was traced to the trapezius and dissected away from surrounding tissues. Then the omohyoid muscle was cut in its midpoint and the jugular sheath opened. The vagus and carotid were identified and spared. Dissection continued along the floor of the posterior triangle, clamping the transverse cervical vessels and ligating them with silk ties. The phrenic nerve was identified and spared, and the fat superficial to it was swept upward, clamped and tied. Dissection then continued along the posterior extent of the dissection following the trapezius to the levator scapulae and up to the sternomastoid. The fat in the posterior triangle was then elevated from posterior to anterior, taking care to cut the branches of the cervical plexus high on the specimen to avoid injury to the phrenic nerve. The posterior facial vein was identified and dissected from surrounding tissue, leaving it as drainage outflow for the platysmal flap. The anterior jugular vein was clamped, divided and ligated. The hypoglossal nerve and digastric muscle were used as the floor of the anterior border of dissection, sweeping the fibrofatty tissue downward from here. The spinal accessory nerve was again dissected from surrounding tissue superiorly and the specimen was taken in one piece as a posterior neck dissection.

The anterior jugular sheath contents were left pedicled to the larynx. Then the right thyroid lobe was exposed, sparing the superior thyroid artery, leaving it intact at the carotid. The midportion of the inferior neck flap was then incised and a tracheotomy performed. The strap muscles were split in the midline and the thyroid isthmus divided with a Shaw scalpel. A horizontal opening into the trachea was made below ring three and beveled upward one ring to allow placement of the anode tube. The endotracheal tube was removed and the anode placed, and it was stitched in place.

A left modified neck dissection ensued. Again the sternomastoid and jugular vein, as well as the 11th nerve were spared. Dissection was done in the same way as before, except on the left side the submandibular gland was included in the specimen. It was dissected from the undersurface of the mandible, clamping and dividing the facial vein but leaving the facial artery in place. The mylohyoid muscle was identified and retracted anteriorly, exposing the lingual nerve. The branch to the submandibular gland was clamped, divided and ligated, as was

the duct. The gland was then dissected off of the digastric muscle, moving it inferiorly.

Once again, dissection then began inferiorly, splitting the omohyoid, identifying the contents of the carotid sheath and the phrenic nerve in the floor of the triangle. Here structures that were candidates for the thoracic duct were clamped, divided and ligated. Once again, the spinal accessory nerve was dissected from surrounding tissue both in its posterior triangle extent and at the skull base. The fibrofatty tissue was moved from posterior to anterior, taking branches of the jugular vein but leaving the main internal jugular intact. The specimen in this way was completely mobilized and left attached to the larynx.

Then the laryngeal tumor was visualized by entering the right piriform sinus. The constrictor muscles were divided off of the thyroid laminae and the hyoid bone was skeletonized in its right portion. The perichondrium of the thyroid was incised and elevated on its undersurface, sparing the piriform mucosa. The piriform was entered sharply. Using a Babcock, the incision was extended across the right vallecula and the tumor in the left base of tongue was visualized. A Shaw scalpel was used to cut through the tongue base, keeping one fingerbreadth's distance from the tumor, as we moved across the base of tongue. This allowed good visualization of the tumor, and it was finally determined that a total laryngectomy would be needed because of arytenoid erosion and involvement at the junction of the false and true vocal cords.

Thus the strap muscles were divided inferiorly and the left thyroid gland was mobilized, leaving it attached to its pedicle. Once again, the constrictor muscles on the left thyroid lamina were incised, but here the piriform mucosa was not elevated at first until the incisions could be made internally, going around the portion of the tumor in the piriform. The superior laryngeal artery and vein were clamped, divided and ligated bilaterally. The larynx was mobilized upward, allowing visualization of the piriform. The left piriform was then incised below the tumor, leaving 2 cm of normal mucosal margin and extending across the postcricoid area. Dissection into the party wall allowed mobilization of the specimen and the tracheotomy was completed below, going up the next tracheal ring as well in a steeple or chimneylike fashion.

The specimen was removed in one piece and sent for permanent pathologic analysis. Frozen sections were taken, as noted above, and returned negative for tumor. Specimens were taken for the head and neck tumor biology laboratory. Gloves and sharp instruments were then changed and the pharyngotomy was closed in a T-fashion using running canal stitch, beginning inferiorly and from the right and left tongue base. A second Lembert layer of 3-0 Vicryl was then

placed, and the wound was irrigated with bibiotic solution. Three 10-0 Jackson-Pratt drains were placed, two on the right and one on the left side. The stoma was matured using 2-0 Prolene first to the clavicular heads, splitting the anterior portion of the tracheal rings down two rings and creating a V-shaped advancement flap from the inferior neck skin to place in this split. Vertical 2-0 Prolene sutures were then placed around the stoma. Then the neck skin was closed in layers using 3-0 Vicryl for the subcutaneous and platysma closure. On the right side, the platysmal flap pedicle was excised and discarded, but the platysma was kept in place, and the skin was closed without difficulty. Staples were placed on the skin. Prior to closure of the pharynx, a #12 EntriFlex feeding tube had been placed, and this was sewn in place with 3-0 nylon in the nasal septum. The patient was then awakened and extubated. He was taken to the ACU where he arrived in stable condition, having tolerated the procedure well without complication. Estimated blood loss was approximately 800 cc.