FLUOROSCOPIC BRONCHOSCOPY, ESOPHAGOSCOPY AND GASTROSCOPY.*

DR. R. C. LYNCH, New Orleans, La.

It would seem almost necessary to apologize to this society for the presentation of a subject in which practically all of the members are so well versed; and yet, if we do not exchange our experiences in every phase of this work, it will be ever so much longer before our procedures are sufficiently standardized to permit the less experienced to proceed without experimentation. I have selected fluoroscopic tube work for my text with the relation of a few instances in which it was apparently impossible to proceed except for the valuable information and guidance as furnished by the fluoroscopic tube work and by the X-ray plate, both of which you are familiar with.

In 1913 I described my first experience of fluoroscopic bronchoscopy with extraction of a nail low down in one of the terminal bronchi of the stem to the lower lobe on the right side, and this at least was one of the first case reports of this technique.

During the last two years I have had several occasions to use this combination for the successful removal of foreign bodies from the lungs, and I have employed it in one esophagus case and in two stomach cases; these form the basis of this report.

The bronchus cases were four in number, all of long retained foreign bodies in which, as is usual particularly with metallic substances, worked their way to as near the periphery as space would permit, and when the final destination was reached, began the slow destruction of surrounding tissue with abscess formation; then, nature's effort to stop this process resulted in a thick walled abscess cavity being formed, in which state I found each of the four cases.

A little boy playing doctor with his little friend was gagged by the brushing of the posterior pharynx with the head of a millet grass bloom, all of which broke off and was insufflated into the trachea and down into the depths of the right bronchus. Procrastination, ill advice, tuberculosis, sepsis, followed in the usual history of such cases until finally after two and a half years it was decided to consult someone who might possibly do something. The little fellow was deep in the throes of a profound sepsis, temperature,

*Read before the American Laryngological Association in Boston, May 28, 1920.

emaciation, toxemia, with an abscess between the fifth and eighth ribs in the position represented by the very terminal bronchi from the main stem to the lower lobe of the right lung. The cavity measured nearly three inches in its diameter, and of course the foreign body was unable to be seen either on the screen or plate. He was too weak to permit much anesthesia, so we proceeded on the first attempt without this. The bronchus was found to be closed by granulation tissue, but a small trickle of pus could be seen coming from between the papillae at the bottom of the tube. After adrenalin had shrunk these, they were bitten away and finally with a small steel wire feeler or probe, I entered the abscess cavity and made the attempt to dilate the neck of the cavity, using a stout jawed forceps introducing these closed and extracting them opened. By this means about two ounces of pus was removed by suction and this was thought sufficient for this sitting.

Period two consisted in using a smaller tube and the fluoroscope to guide the forceps through what seemed like three quarters of an inch of granulation tissue to the cavity and when entered the fluoroscope determined the presence of the forceps in the cavity without doubt. We then tried the flexible end right angle forceps of Jackson and searched the upper half of the cavity very carefully and finally succeeded in removing what seemed like about one third of the grass head and again draining the cavity of pus. After this the general symptoms improved for a while, but it was not for long. A third attempt was made to clean the cavity and drain the abscess, but failed. The child went home and an external opening was made which removed the remaining two thirds of the grass head, but the sepsis was so pronounced that the little fellow finally yielded to the battle and died.

A screw was inhaled four years previously and like the histories of these cases, came finally under observation, abscess about two inches in diameter with fairly thick walls and beginning sepsis. On the first examination the bronchus was found entirely closed, but after picking and dilating, I finally managed to uncover a path which led into the abscess cavity and guided it to come in contact with the screw; a small forceps previously made to fit this tube was now inserted, its jaws opened and these were seen to grasp the foreign body and I could feel them take hold. We continued to watch the extraction of the tube, screw, and forceps until the foreign body was finally delivered out of the body; this, by the way, is especially advantageous in case the forceps should slip and the body lost, it could still be under observation by the fluoroscope. While it did

not happen in either case, it has before, and can be guarded against in this way.

The third case of an upholstery tack in about the same position, worked about the same way and was successfully removed.

A wire fence staple in the left bronchus was assisted in its removal by fluoroscopic means in that the staple was point up when the intervening tissue was cut away to permit the mass to be removed; it was thought best to turn the staple in the trachea and bring it out by the blunt end first, so that when it was dislodged and brought into the trachea, the fluoroscope kept constant watch until it was turned, grasped, and delivered by its blunt end out of the body. One reads so frequently of a partial delivery and subsequent loss of a foreign body, and this I have had, too, so in this case I determined to guard if possible against this occurrence. The staple had been in situ nine years and was decidedly corroded, and I was fearful lest I should break it in its removal or leave some fragments behind. The fluoroscope was very comforting in determining the entire removal of the mass, and the boy made an uneventful recovery.

A little girl swallowed lye about five years before, and in due time had a stricture of the esophagus, which finally closed and necessitated a gastrostomy for feeding by which nutrition had been maintained, but as the youngster grew and began to go to school, she and her parents became more than anxious to reestablish feeding by normal route. Esophagoscopy determined an impermiable stricture one and a quarter inches below the cricoid. An attempt was made to do a retrograde dilatation by an opening through the stomach, and when the bougie was in place the fluoroscope displayed about an inch separation between the esophagoscope above and the dilator below. Looking at the two points in two diameters, it was thought that they were in a straight line, and an attempt was made to dissect through the stricture. I cut through about an inch of tissue and could not reach it with the knife. As the patient was not doing so well, we stopped the procedure for a later session. All went well until the fifth day, when the little girl drank nearly a bottle of Coca-cola, and I am not sure if that is all she had, for her mother, who was with her, could not resist the temptation to feed her even though everything by mouth was absolutely forbidden. She developed a mediastinitis with fluid in the right pleural cavity and died. We could not secure permission for a post mortem.

A baby of two years swallowed a quarter which slipped into the stomach, where it lay for two weeks. The fluoroscope determined

that it was probably nearer the greater curvature but toward the pylorus. A scope was passed into the stomach, and after moving the patient on the side and then on the back, we finally placed the tube over the body and removed it.

In a baby with an open safety pin in the stomach, the same procedure was tried, but after seven minutes' search by watch, we were unable to find the pin. All was in readiness to do a gastrotomy, and Dr. Urban Maes removed the pin through the smallest of incisions and in fifteen minutes the baby was closed up and ready to return to the room. She made an uneventful recovery.

Fluoroscopic bronchoscopy is of the greatest value and aid in the successful removal of long-retained foreign bodies of an opaque sort from the bronchi or abscess cavities, and it likewise helps to guide one to the site of abscess even when the foreign body cannot be seen. It will help in selected cases in the gastroscopic cases, and I am sure someone will report its successful assistance in re-establishing a pathway in an impermiable stricture of the esophagus in a more favorable case than the one which I have just reported.

INFECTIONS FOLLOWING OPERATIONS OF THE NOSE AND THROAT.*

DR. HUGO KUNZ, New York.

Infected foci, following operations of the nose and throat and lodging in other regions are of sufficiently frequent occurrence to demand more than passing note. The oral and nasal cavities are obviously difficult areas to keep clean after operation, and infections therefrom run their course unabated and unchecked. Tonsil operations, both in children and adults, and especially where accompanied by severe traumatism, are prone to cause painful and foul ulcerations of the adjacent tissues, such as the fauces, soft palate, and uvula. Adenitis, involving the chain of glands anterior to the sterno-cleido muscle and under the ramus of the jaw, are of frequent occurrence, sometimes remaining painful and enlarged long after the operation. Purulent otitis, with its possible mastoid complications, the very condition we are trying to forestall by the removal of adenoids and tonsils, occur sufficiently often as a sequel

*Read at the New York Harlem Medical Association, April 14, 1920.