A CASE
IN WHICH
A SILVER TRACHEOTOMY TUBE WAS
REMOVED FROM THE LEFT
BRONCHUS,
WHERE IT HAD BEEN LODGED SEVEN WEEKS.

BY
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(COMMUNICATED BY J. W. HULKE, F.R.S., *Hon. Sec.*)

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C. B—, æt. 56, had worn a tracheotomy tube for fifteen years, during which time it appears the tube had not been once changed. He was a free drinker, and the operation was originally performed for an injury to the larynx caused by throttling.

On the 28th of December, 1876, he was in the act of replacing the inner tube, after having cleaned it, when the outer tube broke away from the shield and dropped into the trachea. This was followed by a severe fit of coughing, which after a time subsided. He then sought advice at a metropolitan hospital, into which he was admitted, but owing to the slight urgency of the symptoms present, his story seems scarcely to have been cre-

dited. The trachea was probed and a new silver tube introduced, but nothing further was done, and he left the hospital after remaining an in-patient for a week.

He came to Guy's Hospital on January 5th, 1877. At the time he was breathing comfortably, but he stated that he was liable to violent attacks of coughing and dyspnoea, and that these were especially excited by turning on his right side. He consented to be examined under chloroform on condition that he might return home the same day.

Chloroform having been given, Mr. Lucas, in the absence of Mr. Bryant, enlarged the opening and examined the trachea with a long probe. After some trouble the tube was felt, and on one occasion Mr. Durham in using the probe caused a distinct metallic sound, audible to those around.

Inversion of the body was tried, and various forceps were introduced into the trachea, with a view of seizing the tube, but all attempts to secure it proved fruitless. There was a remarkable absence of signs of tracheal or bronchial irritation following this attempt to remove the foreign body, and the man refusing to have anything more done left the hospital two days after.

He presented himself again on January 29th, saying that he had been unable to get any rest at night, or to do any work since he left the hospital. His lips were blue, and he looked more ill and sickly than when last seen. His complaint was chiefly against the tube, which he thought too small. He was examined by Dr. Pye-Smith, who found that there was well-marked dulness at the base of the left lung and absence of respiratory murmur. There was also a diminution in the vocal fremitus, but the heart was not displaced. There was diminution of the respiratory murmur throughout the left lung and also somewhat deficient resonance. There was very little cough and only occasional râles. Dr. Hilton Fagge, who also examined him, thought that there was an intermittent rhonchus over the left bronchus, which

pointed to the situation of the foreign body. The patient was unable to lie on his right side.

A larger tube was inserted, through which the patient said he could breathe much more freely, and, refusing to have anything more done he left the hospital a second time on February 2nd.

He was admitted for the third time on February 16th. He looked ill and worn, and was evidently thinner. The physical signs remained much as before, but there was more general rhonchus and the sputum was distinctly foetid. He stated that he had not left his bed during the time he had been at home, and that he had been troubled with severe cough and pain on the left side. He now consented to be operated upon; chloroform was accordingly given, and the opening in the trachea enlarged. On introducing a probe, a metallic body could be distinctly felt apparently in the left bronchus. Acting upon the experience of Mr. Hulke's case, Mr. Lucas introduced a soft copper wire bent at the extremity into a short well-rounded hook. With this the tube was caught, but it was found impossible to displace it, and further (owing probably to the wire having passed on the side on which the tracheotomy tube lay in contact with the trachea) it became impracticable to disentangle the hook. The wire being of very soft copper the hook was unbent by traction, and on being withdrawn it carried with it a blood clot between four and five inches in length, and of the thickness of one's thumb. After this the breathing, which had become a source of great anxiety, was much relieved. Two or three different forceps were now tried in succession, and the tube was eventually seized by a pair of slightly curved forceps opening laterally, one blade of which had passed into the interior of the tube, whilst the other grasped it from the outside. Seized in this way the tube was withdrawn with the greatest ease.

A red-rubber tube was now introduced, but it showed a tendency to collapse, so that the air in passing caused an unpleasant noise like blowing through a trumpet. As

the irritation subsided the noise ceased, and it was decided to give the tube a trial. Three or four hours later, however, the patient was found in great distress. The tube was partially collapsed and choked with mucus; air during inspiration was sucked in by the side of the tube, and at every expiration some air was driven into the cellular tissue of the neck. Both sides of the neck above the wound were distended by air to the level of the jaw. The substitution of a metallic for the rubber tube gave the patient immediate relief, and he soon after fell into a comfortable sleep.

No rise of temperature followed the operation. There was some bronchial expectoration, which gradually subsided, as did also the emphysema of the neck. More air could be heard entering the left lung after the removal of the tube, but the dulness at the base remained as before. At the end of ten days he was able to sit up and to walk about the ward.

It had been noticed when he first came into the hospital that there was some pitting of his back, when a stethoscope was applied; but owing to attention being directed towards removing the foreign body, and also owing to the short time that he remained in the hospital on the two previous occasions, no examination of his urine was made till after the removal of the tube. The urine was now found to be loaded with albumen. There was also some cedema of the ankles after standing or walking about and slight general anasarca. From this he said he had suffered more or less for about two years, but that it generally disappeared after the use of strong aperient medicine. Dr. Pye-Smith also detected a systolic aortic bruit, which he thought due probably to an atheromatous condition of the aorta. The patient was now freely purged with jalap, and progressed well till March 9th (three weeks after the operation), when he caught cold and began to expectorate a considerable quantity of greenish mucus. He was placed in an atmosphere of steam, and given a mixture containing squill and senega,

from which he derived considerable benefit, but he was still troubled with a good deal of bronchial expectoration when he left the hospital on March 16th.

The tube, which was thickly coated with black sulphide, was found to have broken away from the shield. It showed at the upper end on its convex side the scratches made by forceps in attempts to remove it. On the concave side were marks made by the passage of the wire.

Remarks.—I wish to draw attention to the following points.

I. That in a person who has worn a tracheotomy tube for many years, a foreign body may become lodged in a bronchus without causing any great difficulty in breathing, and without exciting any grave symptoms of irritation, for a considerable period.

II. That instruments may be freely introduced into the trachea in such cases without any fear of exciting serious bronchial inflammation.

III. That if a wire be used as a hook it is very important that it should be of soft metal, lest it should become immovably fixed.

The difficulties experienced in removing the tube were due in a great measure to a lack of proper instruments, all the curved forceps at hand being throat forceps, which were not only ill-adapted for use in the trachea, by reason of their improper curves, but also by their great size, which prevented the blades from being freely opened when inserted into the trachea. Mr. Millikin, of 3, St. Thomas's Street, has since made for me a forceps well adapted for removing foreign bodies from the trachea or bronchi. The blades are light and narrow, being about the length and width of those used for the urethra. The forceps is slightly curved throughout, but near the extremity of the handle the curve is suddenly increased, the object of the increased curve at this part being to allow the operator to work beneath the projection of the chin.

The handles cross slightly, so that the blades may be opened to a considerable distance by a slight separation of the handles.

I have tested this forceps on the dead subject, and have found that with its aid a silver tracheotomy tube may be caught and removed with ease from either bronchus.

The following were exhibited at the Meeting.

- (1.) Silver tracheotomy tube removed.
- (2.) New forceps.
- (3.) Drawing representing the position the tube is believed to have occupied in the left bronchus.