PAPER CLIP IN BRONCHUS SEVENTEEN YEARS REMOVED BY SUPERIOR BRONCHOSCOPY *

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During the past seventeen years numerous cases of foreign bodies removed from the bronchus by either the superior (laryngeal) or inferior (tracheal) route have been recorded. The following case is placed on record because of the long interval[1] between aspiration and removal, and to emphasize the fact that even after remaining so long in situ, its removal was not difficult.

History.—M. K., aged 26, was admitted July 1, 1915, and discharged July 19, 1915.

Present Illness.—Seventeen years ago the patient was playing with a paper clip which he had put into his mouth, when it suddenly became lodged far back in his mouth near the base of his tongue. His father, with the use of an ordinary teaspoon, made an attempt to remove the clip, but unfortunately pushed it still farther down the patient's throat. The patient felt much better and did not notice any particular distress, and his parents believed that he had swallowed the clip. He was given castor oil. The next day, while the patient was playing in the street, he was suddenly seized with a paroxysm of coughing and raised a large quantity of mucus mixed with blood; also he had great difficulty in breathing.

He was taken to a hopsital where he was placed under observation for a period of one week. After being put to bed his symptoms disappeared and he was finally discharged without any attempt being made to recover the paper clip.

After being home for a few days he was taken suddenly very ill and his physician said he had pneumonia. He was sick at this time for about six weeks, having had what the physician called a relapse from which he finally made an uneventful recovery. He then enjoyed fairly good health for about two years, when he noticed a dull aching pain in the right side of his chest and complained of a hacking cough, with the expectoration of large quantities of mucopurulent sputum, marked shortness of breath and a sense of oppression and suffocation. Thinking that he was beginning to have some lung disease he consulted his physician. He says he was first told he had tuberculosis, and that he must go back for a second examination after a certain period. This he did, and was told he had bronchial asthma. He states that he received treatment for this for about twelve years at several institutions and from various physicians. During this time he coughed more, the sputum became very offensive and foul smelling, his pain and sense of suffocation increased and he became exhausted on the slightest exertion, finally having to give up his work entirely. His weight, however, did not decrease with increase of his symptoms. His appetite was always good. Not being able to work, he gave up all hope and came to Bellevue Hospital believing that he had tuberculosis. On being questioned, he told of the paper clip he had had in his mouth seventeen years before and of the treatment he received since that time. He was admitted to the hospital for Roentgen-ray examination, July 1, 1915.

Examination.—Roentgen-ray examination[2] showed a distinct shadow of a flat-headed paper clip in the right main bronchus, with head down. It also showed marked thickening of the adjacent pulmonary tissue.

Operation.—July 15, 1915, superior bronchoscopy was performed and the clip removed under combined ether and cocain anesthesia. Cocain and epinephrin were applied in the right bronchus to control reflexes and ether insufflation (intratracheal) through a metal catheter in the bronchoscope kept the patient thoroughly anesthetized. The clip was embedded in the granulation tissue which almost filled the bronchial lumen, and there was copious discharge during the manipulations. As soon as one leg of the clip was seen it was firmly grasped with forceps and the clip withdrawn with the bronchoscopic tube (Jackson-Rochester). In withdrawing the clip the two legs became spread apart, one entering the tube and the other trailing after.

Subsequent Course.—July 17, 1915, there was very little febrile reaction. At first expectoration ceased almost entirely, then it became more copious, and then gradually diminished in amount.

July 19, 1915, the patient was discharged feeling well.

Nov. 10, 1915, the patient was shown before the New York Surgical Society in excellent condition. A recent roentgenogram showed marked improvement in the pulmonary condition, though considerable thickening was still present. The patient still had a moderate cough and some expectoration, undoubtedly due to the bronchiectasis that had developed from the paper clip remaining in situ for seventeen years.

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1. Jackson, C. (Ann. Otol., Rhinol. and Laryngol., June, 1913) reports a remarkable case in which he removed a collar button twenty-six years after aspiration. I believe this and the case here reported represent the longest periods between aspiration and extraction.

2. By Dr. Hirsh, Bellevue Roentgen-ray laboratory.

REPORT OF A CASE OF TETANUS, WITH COMPLICATIONS

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Nov. 23, 1915, H. H., man, aged 23 years, ran a splinter from a barnyard gate into the back of the second phalanx of the middle finger of the right hand. The splinter was deeply embedded alongside the bone and was removed five days later. November 30, one week after the initial injury, the patient felt a slight stiffness in his jaws and some pain in his back.

December 1, he consulted me and at once entered the Jefferson County Hospital. Within a few hours, he received 9,000 units of antitetanic serum, 6,000 units intravenously and the other 3,000 units subcutaneously. The wound in the finger was opened freely and cauterized thoroughly. His temperature on entrance to the hospital was 99.4.

On the following day, December 2, the patient received 15,000 units of antitetanic serum, December 3, 18,000 units, December 4, 9,000 units, and December 5, 3,000 units, all given subcutaneously. During this time his temperature had steadily increased to above 104, with the other symptoms of tetanus steadily increasing in severity, the jaws set, opisthotonos, jerking of the muscles of the back, and pain in the abdomen, with some delirium. He was able to take fluids freely through a drinking tube. During this time in addition to the antitetanic serum, he was given morphin sufficient to control the pain, with chloral in 40 grain doses by rectum, repeated when considered necessary. During the forenoon of December 6, he had a severe convulsion. Immediately following this, he was given morphin, one-half grain, with atropin, 1/150 grain, hypodermically, and received 3,000 units of serum in the spinal canal.

As the wound in the finger continued to have pus in it in spite of repeated cauterization and wet dressings kept constantly hot, it was thought that there might still be an incubation of tetanus bacilli in the wound; therefore the finger was amputated, the head of the metacarpal bone being removed, the end of the wound being left open with hot moist dressings continued.

On the following day, December 8, the patient's temperature continued to increase, reaching 105.2, when he received 6,000 units of serum in the spinal canal. Early the following morning the temperature reached 105.8, and then subsided, December 9, to 102.2. The symptoms of tetanus began to show improvement; there was less stiffness and opisthotonos, and less sedatives were needed. December 10 and 11 the temperature increased again, and the patient was continually delirious. December 11, his temperature reached 105.4, and during the afternoon of this day the tympani of both ears ruptured and the ears began to discharge freely. His delirious condition had been such that he had not said anything to his attendants about having pain in the ears. It was

now hoped that his condition would improve; but about twenty-four hours later the wound in his hand began to show signs of inflammation, notwithstanding the fact that it had free drainage, and hot moist dressings had been kept up.

December 15, the temperature again reached 105.6, and then subsided, as the hand began to show improvement. The tetanus symptoms gradually improved, and, December 24, the temperature reached normal. The otitis media improved gradually, and the amputation wound healed so that the patient was able to leave the hospital, entirely recovered, Jan. 10, 1916.

The interesting features of this case are: the short period of incubation, which statistics show produces the most serious prognosis; the fact that the patient had only one convulsion, although all the other symptoms of the tetanus were severe; the extremely high temperature at the height of the tetanus, the otitis media, and the infection in the hand, and the unusual complications and recovery, notwithstanding the latter.

The patient received in all, 63,000 units of antitetanic serum, massive doses of morphin, chloral by rectum, which usually had a decided sedative effect producing the much needed sleep, and also bromids by mouth.

I believe that the most decided effect of the antitetanic serum followed the intraspinal administration, although the immediate reaction seemed to produce a hyperpyrexia.

Therapeutics

BACKACHE

The therapy of backache may belong to the domain of the neurologist, the surgeon, the gynecologist or the genito-urinologist. Backache is a common symptom of innumerable disorders. It can be treated rationally only after the correct diagnosis is made. Unless this is done, any improvement resulting from the treatment is similar to that following any hit-or-miss therapeusis.

By backache is usually meant lumbar pain beginning at the region of the first lumbar vertebra and extending downward, often to the sacral and coccygeal regions. The pain may be in the center of the back, along the spine, or on either one or both sides of the spine.

Often the clue to the real cause of the pain may be obtained by careful questioning. The duration and nature of the pain, its exact location, whether in the center or to one or both sides of the spine, are all of importance. It is essential to know whether or not the pain is associated with fever; has followed a convalescence from some infection; is associated with pain on urination or with changes in the appearance of the urine; has followed a sudden strain; is aggravated by bending the body in any direction, or has any relationship to menstrual or uterine disturbances.

After a careful history of the patient has been recorded, a thorough physical examination is essential in the search for the etiologic factor in the backache. On account of the large number of varied causes, treatment without examination is generally guesswork. The best way to examine the patient is to remove his clothing, and to observe him first in the standing position, noting whether or not the body is flexed to one side or the other, or more weight is placed on one leg than on the other. The presence of any abnormal curvatures or deformities of the spine, or any enteroptosis should be noted. In palpating, points of tenderness should be sought over the spinous processes of the vertebrae, and the presence of ptosed or enlarged abdominal organs should be noted. In women a vaginal examination is essential for the detection of any abnormal uterine conditions, such as marked retroversion or tumors of the uterus, or any pelvic exudates or abnormalities. The patient should flex the body in various directions while in a standing position and should be requested to flex and extend the thighs on the abdomen while lying on his back, that the freedom of these motions and the amount of pain they cause may be noted.

Roentgen ray examination of the spine will often be of service in revealing thickening or ankylosis of the vertebral joints or rarefaction of the bodies of the vertebrae. It will also aid in helping to exclude renal or ureteral calculi. Finally, the temperature and urinary findings may aid in deciding the cause of the trouble.

The causes of backache may be divided into groups:

BACKACHE DUE TO STRAIN OR LACK OF BALANCE

By far the greatest number of backaches belong to the fatigue and lack of balance group. This group has been described by Reynolds and Lovett[1] as due to loss of balance, when an unusual strain is placed on the lumbosacral tissues and the muscles of this region. The strain may be produced by posture, by poor muscular balance and by abnormal conditions within the abdomen, such as enlargement of the organs, enteroptosis and obesity. The fatigue may result from an attitude constantly assumed in some form of occupation, such as stooping, bending, or lifting heavy objects.

Those backaches resulting from changes in muscular balance due to uncorrected broken or fallen arches of the feet, or to the continuous use of poorly fitting shoes, are also placed in this group. The pain in these cases often extends up the lower extremities to the back. From a faulty tread, the muscles of the leg, thigh and lower part of the body may be strained and become painful, and even the knee joint or hip joint may be strained by the lack of balance. A careful examination of the shoes, feet, and posture on standing and walking, and an investigation of the kind of work or the kind of strain to which the patient is subjected, will generally disclose the physical cause and the consequent treatment of this kind of backache.

As a result of the constant backache or frequent attacks of backache, there may come a time when, in the highly neurotic individual, the mind is frequently concentrated on the back, and as a result pains will be present without any cause. Associated with this may be other symptoms, such as perverted heat and cold sensations, an abnormal state of the reflexes indicating a neurasthenic tendency. This condition has been termed "hysterical spine" or, after railway accidents, "railway spine."

The treatment of this form of backache will tax the energies of the therapeutist. No definite rules can be laid down, except that all other possible causes of the backache must be excluded before a diagnosis of hysterical or railway spine is made. In these cases, treatment should be mainly general, and should be based on efforts to relieve and cure the neurotic condition of the patient. Local treatment is generally only of psychic value, but for that reason alone is essential. In local treatment, use may be made of electricity,

1. Reynolds, Edward, and Lovett, R. W.: An Experimental Study of Certain Phases of Chronic Backache, THE JOURNAL A. M. A., March 26, 1910, p. 1033.