respiratory efforts. This was followed by the return of the heart sounds. The cyanosis was gradually replaced by normal color, and within a few minutes, respiration became regular, the heart action good, and consciousness was restored. After this the patient made an uneventful recovery from his symptoms.

As the pain continued for a number of months, the extremity was finally amputated above the knee, under gas and oxygen anesthesia. Recovery was prompt and the patient was discharged from the hospital four months after operation.

All the successful cases of resuscitation with intracardiac injections of epinephrin reported in the literature occurred in heart failure following anesthesia, asphyxia, or severe physical or electrical shock, when there was no distinct contraindication to the restoration of the cardiac action, to wit, the presence of a prolonged illness or disease. Only in this type of case would such measures have any permanent effects.

Emergency measures used to restore cardiac activity act either through direct action on the cardiac muscle, as in cardiac massage through the abdomen, or through the action of a drug on the myocardium or on the neuromuscular junctions. Epinephrin injected directly into the heart combines the advantages of the two, the puncture mechanically stimulating the heart muscle, and the drug acting on the neuromuscular junctions.

129 East Sixty-Ninth Street.

Clinical Notes, Suggestions, and New Instruments

CARCINOMA OF THE ESOPHAGUS, WITH PERFORATION OF THE AORTA

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As perforation of the aorta is a rather infrequent complication of cancer of the esophagus, this case is reported so that it may be recorded with the relatively few cases so far entered in medical literature. Knaut¹ reports a series of fifty cases up to 1896. Carr and Hanford² compiled reports of twenty-one cases occurring since 1896, and added one of their own, making a total of twenty-two. The following case is here added:

An Austrian housewife, aged 47, entered the Conemaugh Valley Memorial Hospital, Oct. 17, 1921, for the relief of vomiting. The family history was unimportant. The patient had always enjoyed excellent health until the present illness began. She did not remember having any sicknesses. She had four children, two of whom were living and well. There had been no miscarriages. The menstrual history was normal. The present illness began about two months before with vomiting (on observation it was found that what the patient thought was vomiting was really a regurgitation), particularly noticeable with solid and semisolid foods. The patient could swallow liquids, if taken in small amounts and swallowed slowly. She complained of pain beneath the sternum and in the stomach, with a sense of fullness in the epigastrium. The appetite was good. There was considerable eructation of gas. She vomited (?) undigested food. The bowels had been fairly regular until the last month; there had been no movement during the last week. She complained of loss of weight and weakness. There were no renal symptoms and no headache.

The patient was fairly well developed, poorly nourished and anemic, and appeared normal except for the presence of an umbilical hernia. The temperature varied between 97 and 101 F.; the pulse, between 70 and 120; the respiration, between

20 and 35. The urine was amber, clear, acid with a specific gravity of 1.020, a thick sediment, a medium trace of albumin, no sugar, and a heavy trace of acetone. There were a few hyaline casts and a moderate amount of pus cells. Blood examination revealed: hemoglobin, 70 per cent.; erythrocytes, 4,336,000; leukocytes, 10,600; polymorphonuclears, 61 per cent.; large lymphocytes, 4 per cent.; small lymphocytes, 33 per cent.; transitionals, 1 per cent.; basophils, 1 per cent. The Wassermann reaction was negative. The coagulation time was four and one-half minutes. Roentgen-ray examination revealed stricture of the esophagus 2 inches from the top of the sternum, rather irregular, and probably malignant.

The patient was unable to swallow anything except for a small amount of liquids. The throat consultant advised against esophagoscopy at this time, and as the patient was failing rapidly, a gastrostomy was performed. After a rather stormy ten days the patient began to improve, and, about December 10, was up and about the ward. Her general condition improved, and she gained slightly in weight. December 29, immediately after going to bed, she was found gasping for breath, and died in a few minutes. There was no bleeding from the mouth.

Necropsy revealed a fibrous, malignant growth involving the esophagus, on a level with the bifurcation of the trachea, about 3 inches in length. The lumen was almost occluded, admitting only a small-sized probe. There was an ulcerating area in the center of this growth which invaded the aorta, and here the perforation occurred. The opening into the aorta admitted an ordinary sized lead pencil. The stomach was filled with blood. The gastrostomy opening was in good condition. No metastasis and no other abnormalities were found.

A NEW INSTRUMENT FOR OPENING ABSCESSES IN THE LARYNGOPHARYNX

I. RUEBERT SMITH, M.B. (TOR.), M.R.C.S. (ENG.), L.R.C.P. (LOND.)
TORONTO

This instrument is to open abscesses in the laryngopharynx. The angle of the handle with the shank is 135 degrees, so that when the instrument is inserted in the pharynx the cutting edge of the blade presents itself against the anterior

surface of the abscess, and by depressing the handle downward toward the chin, one opens the abscess. There is a small knob preventing the end of the knife from injuring any

Knife for opening abscesses in the laryngopharynx.

of the deeper anatomic parts. The knife itself is bellied near the tip to facilitate the opening of the abscess. This knife can be used with the patient in either the sitting or the lying position with the same advantages.

I had this knife made for me about twelve months ago, and have found it simple, practical and efficient for this purpose.

116 College street.

Menstruation.—I doubt if there is any bodily function in the female which has received more attention from time immemorial than menstruation, and yet we are still groping in regard to the actual cause and the precise significance of it. Its very mysteriousness has led to its becoming surrounded by encrusted masses of superstition and folklore which have, as Novak says in his recent book, "befogged the subject in the minds of both the laity and the profession and inhibited intelligent efforts to study it."—Johnstone, *Edinburgh M. J.*, May, 1922.

1. Knaut: *Inaug. Diss.*, Berlin, 1896.

2. Carr, J. G., and Hanford, C. M.: *Carcinoma of the Esophagus with Perforation of the Aorta*, *Am. J. M. Sc.* 164: 340 (Sept.) 1922.