

TRANSACTIONS
OF THE
PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting Held December 1, 1924

The President, DR. EDWARD B. HODGE, in the Chair

EXOPHTHALMIC GOITRE WITH LARGE THYMUS

DR. EDWARD J. KLOPP reported the history of two patients with this condition. The thymus in both was considerably larger than the average found at autopsy in persons dead of exophthalmic goitre.

CASE I was a colored girl of twenty, admitted to the Pennsylvania Hospital, May 9, 1922, under the care of Doctor Gibbon. The enlargement of the neck was noticed three years before, following an attack of scarlet fever, gradually becoming larger. Frequent palpitation for two years, rather nervous, not conscious of any eye symptoms. Best weight, three years ago, 130 pounds; present weight, 109 pounds. Typhoid at eight; bronchitis almost every winter. Menses established at fifteen, regular and normal. At seventeen would sometimes miss a period. Last period was on December 12, 1921. Teeth are in bad condition; tonsils are cryptic. There are no eye symptoms. The thyroid is symmetrically enlarged, a thrill is palpable, a bruit is heard over the gland, pulsation is easily visible. Heart impulse is forcible—seen and heard all over præcordium. There is a coarse tremor of the hands; no cyanosis or clubbing. Leucocytes 6800. Wassermann negative. She was treated with the X-ray June 26, 1922. The pulse was 130.

Operation.—October 10, 1912, 2 P.M., by Doctor Gibbon. Resection of thyroid. The ribbon muscles were adherent; the veins were large and numerous. There was considerable bleeding throughout the operation. Pulse rate 180. The patient was in fairly good condition until the following morning at three o'clock when, according to the nurse, breathing suddenly became slower and more labored and death occurred in five minutes.

Autopsy.—Doctors Flick and Hayman. Heart muscle, adrenals, liver, spleen, peritoneum, intestines and parathyroids appear normal, uterus infantile 5 x 3 cm. Thymus 50 grms. Bronchopneumonia. Examination of thyroid by Dr. H. S. Newcomer. Laboratory specimen 11 x 5 cm. It is a solid struma and is not remarkable.

Microscopical Examination.—The thyroid contains very little colloid substance. There is some in certain areas. The alveoli are not very large. They are everywhere almost filled by overgrowth of the lining cells with papillation and involution. The cells are many of them desquamated. They frequently show mitotic figures and the whole has a very active appearance. Diagnosis: Struma of exophthalmic goitre.

CASE II.—A white woman, married, thirty-three years of age, was admitted to the Jefferson Hospital, September 29, 1924, complaining of nervousness, indigestion, and vomiting, palpitation, and swelling in anterior part of neck. Menstrual history normal. Married nine years, no pregnancies.

General health good until present illness, which began in April, 1924, with vomiting. The following day she had palpitation and rapid breathing. She

then became very nervous and remained so ever since. She spent most of her time in bed. Admitted to a hospital in a neighboring city where she remained four weeks. There has been slight loss in weight. The eyes present all the signs of exophthalmic goitre. The thyroid is symmetrically enlarged. Systolic thrill over thyroid and systolic bruit heard. Pulsation of carotids increased. The lungs are clear. Heart rapid and overactive. Marked tremors. Unable to hold objects.

Blood Examination.—Hb. 85 per cent.; red cells 4,250,000, white cells 7600, polymorphonuclears 82 per cent., S. m. 10. L. m. 4. T. 4 per cent. Blood type 2. Wassermann negative. B.M.R. 46. Urine negative on admission.

October 11, 1924, urine showed very many hyaline and a few granular casts. Pulse on admission varied from 130 to 152. Lugol's solution was administered. There was gradual improvement for three weeks. The pulse ranged from 120 to 130. The nervous symptoms then increased again, and the pulse became more rapid.

October 31, 1924, both upper poles were ligated with silk under local anæsthesia. On the fourth day there was very marked improvement. Two days later there was confusion and finally delirium. She died eleven days after ligation. The pulse was 120 the day before she died.

This patient coöperated unusually well for one so ill with exophthalmic goitre.

Autopsy.—Dr. B. L. Crawford. Peritoneum, pleural cavities, pericardium, adrenals, kidneys, ureters and bladder, liver, gall-bladder, and pancreas, normal. Axillary and pubic hair is scanty and very fine in texture. The thyroid is enlarged. The spleen is considerably enlarged; rather firm. On section the follicles are numerous and enlarged. There are enlarged Peyer's patches in the ileum and numerous solitary follicles in the colon. The mesenteric and retroperitoneal lymph-nodes are enlarged and rather firm. The aorta is small throughout. The thymus (77 gm.): There is a large remains of thymus present, the thickest portion being just behind the upper end of the sternum and which extends down over the pericardium. On section the thymic tissue cuts with little resistance and the tissue is a normal reddish-pink color with no evidence of fibrosis. Thyroid was not removed, but on section the organ was firm and solid, the cut surface presenting a uniform red appearance.

Diagnosis.—Enlargement of the thyroid. Exophthalmos. Large remains of thymus. Pulmonary oedema. Slight hypertrophy of heart. Lymphoid hyperplasia generalized.

Histological Examination.—Sections from the thyroid show a marked hyperplasia of the gland structure, fibrous trabeculæ dividing it into distinct nodules. There is a marked proliferation of the glandular epithelium, the nuclei of which are hyperchromatic, no inflammatory reaction is observed. The thymus is composed largely of small mononuclear cells with very little fibrous tissue stroma and comparatively few Hassell's corpuscles. There is a hyperplasia of the follicles of the spleen and lymph-nodes.

DOCTOR KLOPP remarked that an enlarged thymus is found at autopsy in nearly all cases under forty years of age who die from exophthalmic goitre. Capelle suggested that the severity of the disease was indicated somewhat by the size of the thymus. It is rather difficult to determine the exact size of the thymus by percussion and X-ray examination. Every case of exophthalmic goitre should have an X-ray of the chest to determine the presence of a substernal thyroid and perhaps the size of the thymus. Differential blood counts, as observed by Plummer and others of the Mayo

RUPTURE OF THE SPLEEN FOLLOWING SLIGHT TRAUMA

Clinic, do not differ materially in the fatal and non-fatal cases, if comparatively of the same age. Kocher suggested that leucopenia with relative lymphocytosis indicated a serious outlook. Shridde considered a lymphocytosis of more than 40 per cent. a contra-indication to operation. The old belief that the thymus begins to diminish at two years must be abandoned. There is sufficient evidence that it increases until puberty, after which it gradually undergoes involution. Its enlargement in Graves' disease probably is secondary to the toxæmia, and not a cause of, as claimed by some observers, especially those of the French School. Occasionally there is a recurrence of the syndrome of Graves' disease following resection of the thyroid. Von Haberer claims this may be due to an enlarged thymus. Garré, Von Haberer, and others, have recommended its removal in cases in which thyroidectomy did not afford good results. The suggestion has not been carried out by many surgeons, therefore we cannot draw conclusions on the subject.

RUPTURE OF THE SPLEEN FOLLOWING SLIGHT TRAUMA OR EXERTION

DR. JAMES H. BALDWIN reported the case of a woman, age thirty-four, who was referred to the Methodist Hospital by Dr. E. J. Burton, April 1, 1924. She was admitted about midnight when she was seen by the interne on duty, Doctor Whyte, who reported that the patient had been admitted having symptoms of shock or toxæmia. That she had eaten some potato salad and drank some milk in the evening and later had an attack of abdominal pain with nausea and emesis. He reported that the patient was now resting quietly with some abdominal pain, general abdominal tenderness, but no abdominal rigidity. There had been no history of trauma or illness given. The temperature was 96, pulse 94, respiration 20. The blood picture was: reds 2 million plus, whites 13,000, hæmoglobin 60. The blood-pressure was: systolic 85, diastolic 65. One hour later the temperature was 98, pulse was 88, and respiration 20. The systolic pressure had gone up to 95 and the diastolic remained at 65. This seemed an improvement, as the condition of the patient had not changed otherwise. The blood-pressure rose slowly to systolic 110 and the diastolic remained at 65. There was some pain over the entire abdomen and pelvis. Pelvic examination revealed no palpable pathology. There was pain and tenderness over the left lower chest and pain in the left shoulder and neck. There was marked pallor and slight dyspnœa. There was no air hunger or thirst. There was no abdominal rigidity. There was no special point of tenderness, though the epigastrium was more tender than the rest of the abdomen. There was an indefinite, but not at all positive dulness in both flanks. Several hæmoglobin estimates were made and showed a total drop from 60 to 38. The final leucocyte count at this time was 16,300.

At this time it was learned from the husband that the woman had come home from her work, twelve days before, complaining of severe pain in the abdomen and lower left chest. That she had tried to remove the lid from an ice cream can and that the lid came off suddenly in her hands and the lid struck her in the left upper abdomen. This was followed immediately by pain in this region so severe that she had to stop work at once and was sent to the "rest room." After lying down there for about two hours, she was able to go home, though suffering great pain. No physician was called. She was put to bed, where she remained for the following eight days. The pain was still present but less severe, and she was able to eat and at times was comfortable and free from pain. Her employers having sent word for her to return as soon as possible, although pain was still present, she decided to go back and try it. So on Monday, March 31, she returned to work,

forced herself to keep at it, and worked Monday and Tuesday, having pain continuously. She did her former work of dipping ice cream and the pain was more severe, and especially so on Tuesday afternoon. She remained at work until closing time and went home, where she ate the potato salad and drank the two glasses of milk. Later she had nausea and emesis, and about 10 P.M. had a severe and shocking pain in the upper abdomen. About 11 P.M. her family physician was summoned and she was sent into the hospital at once. This was eleven days after a possible trauma that was seemingly slight and trivial in character.

Operation.—Under light gas-oxygen-ether anæsthesia, a left rectus incision was made. On opening the peritoneum, there was no fluid or blood seen at first, only a normal looking omentum presenting in the wound. When this was pulled down, a large dark organized blood clot appeared and the incision was enlarged. As soon as the clot was disturbed a very profuse hemorrhage was started. The pedicle was grasped in the fingers and held. This controlled all hemorrhage and six clamps were placed on the pedicle close to the spleen. The spleen was cut away and showed a large rupture. During the ligation of the pedicle, the upper clamp was raised slightly to get the ligature under the point. The clamp came away and immediately there was a furious hemorrhage of bright fresh blood. Three large hot packs were placed in the cavity and the remaining five clamps were left on. This controlled all hemorrhage. During this time, 1000 c.c. of citrated blood was transfused from the husband, by Dr. W. R. Gilmour.

Following the operation, the pulse went to 160. The temperature and respiration remained normal. There was no reaction from the blood transfusion. The next day the pulse was 100, temperature 99, and respiration 22. Blood taken at time of operation showed: reds 1,990,000, whites 16,200, hæmoglobin 37. The blood picture improved constantly under treatment and on discharge from the hospital on May 13, the reds were 4,130,000, whites 9600, and hæmoglobin near 60. The clamps and packs were gradually removed and all were out in about ten days. The clamps were all removed several days before the last pack. The patient made a prompt and very satisfactory recovery and has remained well since.

Examination of the spleen shows a large rupture extending deep into the splenic substance. Perhaps there was a small rupture under the capsule at the first pain, which was extended at the time of the second severe pain. The spleen was examined by pathologists at the Methodist, University and Philadelphia General Hospitals as to size, weight and structure, and was pronounced normal.

DR. CALVIN M. SMYTH, JR., said that Doctor Pfeiffer and he had occasion to report before the Academy last spring four cases of traumatic rupture of the spleen. In getting up the material for this report they investigated a good many cases. They were struck with the fact that many of these were the result of very insignificant injury.

Another thing which impressed them, and which has been noted by others, is the long period which sometimes elapses between the injury and the development of symptoms, sometimes as long as twelve days. Since that report last spring he had had two more cases, both with delayed symptoms. One was a boy who fell from a bicycle and struck his abdomen on a railroad track. He was seen by the family doctor that afternoon, who reduced a Colles' fracture and told the boy's parents he was all right. The boy went home, ate a large supper, and then did not feel so well. About eight o'clock he vomited; about 8.30 he had a good deal of pain, and at 9.30 was sent to the hospital. Doctor Smyth saw him at 10.30 and operated at once. He

ACUTE INTUSSUSCEPTION IN CHILDREN

had an extensive rupture of the spleen with the peritoneal cavity full of blood. In this case it was a matter of hours between the injury and the development of symptoms.

In the other case a boy playing football was tackled and according to his story one of the tacklers struck him in the abdomen with his knee. He was seen soon after by his family physician, who diagnosed a fractured rib on the left side, and strapped the chest. The boy gradually went down hill. Doctor Smyth saw him in consultation with his doctor four days following the injury. At that time he presented the picture of internal hemorrhage. Operation was performed that night. They found a large mass of clots around the spleen with much free blood in the peritoneal cavity. In these cases of ruptured spleen much depends where the injury is—whether in a large vessel or in the splenic pulp alone; if the former, there is a more rapidly developing picture of hemorrhage; on the other hand, with the latter there may be an interval with no symptoms of hemorrhage. All these patients have anæmia following their surgical recovery. Unless the anæmia is actively treated, the blood count remains low. In the last case mentioned by him the operation was done September 24; his blood count on admission to the hospital showed 50 per cent. hæmoglobin, 1,900,000 red cells, and 18,000 to 19,000 leucocytes. Blood transfusion was done immediately following the operation and the count came up temporarily and then dropped. Four weeks after operation when discharged it was up to 70 per cent. hæmoglobin, 3,800,000 red cells and 12,000 leucocytes. Two months after operation, his hæmoglobin was 82 per cent., red cells 4,640,000, and leucocytes 8600; he has had active treatment with iron and arsenic since the operation. His blood picture to-day is perfectly good, but the differential count shows the same thing that they all show, an increase in lymphocytes, with a decrease in polymorphonuclear cells. This gradually should return to normal.

ACUTE INTUSSUSCEPTION IN CHILDREN

DR. HENRY P. BROWN, JR., read a paper with the above title, for which see page 637.

DR. J. BLECHSCHMIDT remarked that in two recent cases which proved to be intussusception, there was no blood, nor bloody mucus.

DR. W. E. LEE remarked upon the operative technic required in these cases, calling attention to the necessity of routine jejunostomy in these patients to insure the rapid evacuation of the toxic contents of the upper intestinal tract. The value of this procedure in adults with intestinal obstruction has been demonstrated, and it would seem rational to suppose that the toxic deaths which occur in such a large proportion of infants with intussusception, even when the intussusception is completely relieved, would not occur if the toxic substances of the upper intestinal tract were promptly removed.

His method of overcoming the irreducible type of intussusception was new to him. The principle, of course, is the same as that of the division of the constricting ring in an irreducible hernia, the cutting of the constricting prepuce in paraphimosis; the more common procedure of the division of the aponeurotic pillars of the external ring of the inguinal canal, or of the internal ring, in irreducible inguinal hernia. The procedure is such an obvious answer to the problem that one feels sure that it must have been

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employed in the past, though certainly it has been forgotten by the present generation of surgeons. If one had thought of intussusception as an irreducible hernia of the bowel, one would probably have employed this method of reducing irreducible hernia before this. This procedure of Doctor Brown's will practically eliminate the necessity of resecting the bowel in irreducible intussusception, except in the few cases in which actual gangrene has taken place.

DR. J. E. SWEET said that his own feeling concerning the toxine encountered in obstruction of the small intestine is that it is a normal product of the mucous membrane which is going the wrong way. We know, for example, that the tryptic ferment of the pancreas is extremely toxic when it gains entrance into the blood stream, but under normal circumstances we probably never find trypsin in the blood stream. It is as much a foreign protein as are the foreign proteins of our food, because once excreted into the lumen of the intestine it is, in fact, outside of the body, and cannot normally gain entrance to the inside of the body, unless it be broken down into its constituent and soluble parts. In high obstruction the proteolytic ferment of the intestinal mucosa is activated within the cells, and then passes into the lymph stream and the blood stream, and is the toxic agent concerned. These obstructions in children are of the lower small intestine, but I believe there must be a rapid damming-back with consequent upper obstruction.

SWELLINGS OF THE SUBMAXILLARY REGION

DR. ROBERT H. IVY delivered the annual oration before the Academy upon the above topic, for which see page 605.

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ANNALS of SURGERY
227-231 So. 6th Street
Philadelphia, Penna.