Original Articles.**TWO CASES OF REMOVAL OF IMMENSE FATTY TUMORS BY ABDOMINAL SECTION.¹**

BY JOHN HOMANS, M. D.,

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I AM not acquainted with any reports of the removal of fatty tumors from within the abdominal cavity approaching in size those to be described in this paper. Plaster casts of two of them taken by Dr. Whitney, curator of the Warren Museum, have been kindly lent me, and are on the table before you. As I have met with these two, probably other operators of greater experience have met with more. Mr. Cooper Forster showed at the Pathological Society, on the 14th of March, 1868, a monster fatty tumor, weighing fifty-five pounds, removed after death from the abdomen of a woman. This case and an unreported one mentioned to me by Professor Calvin Ellis, of Harvard University, are the only ones I have heard of. Dr. Ellis thought that the one he removed after death might possibly have been successfully removed during life. In the first of these two cases I made an antiseptic exploratory incision and thought that I could not successfully remove the tumor, and in this opinion I was right. The patient recovered so easily and rapidly from this operation, however, that I felt emboldened to make another and more thorough attempt, which, I regret to say, resulted fatally.

CASE I. IMMENSE MYXO-LIPOMATOUS TUMOR WITHIN THE ABDOMEN.

Francis, C. G., a porter, thirty-nine years old, a native of Germany, came to Boston at the age of ten, and has lived here since. In July, 1861, he enlisted in the 20th Massachusetts infantry, and served gallantly through the war. He was for four months a prisoner in Libby prison during the early part of his enlistment, and later lost his left fore-arm at Fredericksburg, in the assault under Burnside; he was never otherwise sick nor injured. After he returned from the war he worked as janitor and porter in a large office building and carried heavy ash-barrels, weighing one hundred and fifty pounds apiece, down five flights of stairs, by swinging the barrel on his back and holding it by the handle with his right hand over his shoulder. He also carried hods of coal up-stairs, and had the care of twenty-five fires during each winter. He gave up his place in 1879, and was afterwards unable to find work that he could do.

During 1879 and 1880 he did not feel strong and was troubled with palpitation, heart-burn, loss of strength and ambition, and more or less loss of mental power. After standing a few minutes he would feel numbness in both thighs as though they were "asleep;" this sensation induced him to sit down, but if he struggled against this desire and walked about the feeling disappeared. Until the summer of 1880 he had had no dyspnoea. He had never had syphilis. He had been in the habit of drinking two glasses of lager beer daily for about eight years, and had smoked tobacco somewhat. He had not slept very well during the year 1880. Two and a half years ago — that is, in 1878, he first noticed that his belly was becoming swollen, but he thought that it was a natural increase of size, and that he was

simply growing stout. In the early part of 1880 he began to lose flesh and strength, and became gradually more and more emaciated. He entered the Massachusetts General Hospital in February, 1881, and remained about three weeks. No definite diagnosis was made. The urine was somewhat diminished in amount, but not remarkably so. I saw him in July, 1881. The tumor had grown considerably larger than it was when he left the hospital. His abdominal girth at the umbilical level was forty-two and three fourths inches, and from the ensiform cartilage to the pubes the distance was eighteen inches; from one anterior spinous of the ilium to the other was twenty-two and one fourth inches.

As all of the patient's symptoms could be accounted for by the presence of the abdominal tumor it will be unnecessary to refer particularly to the different organs of the body, except to say that they were essentially healthy as far as could be ascertained. A careful examination of the abdomen was made many times. There was a uniform bulging in every direction, and the distended walls projected somewhat over the thighs. The tumor felt so fluctuating in parts that it was punctured several times, but only a little bloody fluid was obtained. This was examined by Dr. Gaunett, and the following is his report:—

6 PARK SQUARE, Aug. 3, 1881.

DEAR DR. HOMANS, — The fluid, of a dark-brown color, very opaque, gives slight precipitate with nitric acid. On standing, abundant brown sediment, clear supernatant fluid. Microscopically sediment made up of very numerous fresh red blood corpuscles and a large amount finely granular material, wholly soluble in acetic acid. No cells of any sort were found, and nothing to indicate the origin of the fluid. From its solubility in acetic acid, the granular matter is undoubtedly albuminoid. I am unable to make any diagnosis from the few characteristics found in the specimen. Sincerely,

W. W. GANNETT.

My diagnosis was "a tumor of unknown character in the abdomen without much adhesion, apparently a large myxoma, or a lipoma, or a colloid growth.

After many examinations and consultations a room was hired in the Carney Hospital, and the patient's board was paid by a subscription of his comrades and friends in the 20th Massachusetts regiment and elsewhere, and on October 30, 1881, I made an incision under the antiseptic spray, about fifteen inches long, from above the umbilicus to the pubes. The tumor, on being exposed, looked like an ordinary fatty tumor. It was smooth and lobulated. It was slightly adherent to the liver, and was covered with a delicate, smooth, envelope looking like peritonæum. It seemed to be about two feet long and a foot thick. The incision enabled me to pull the tumor out of the abdomen considerably, and it was found that the envelope covering it ran down to the spinal column and was then reflected upon the parietes. No intestines were seen. At the lower part there were no adhesions to the bladder, but the tumor seemed to have a central attachment extending from the neighborhood of the celiac axis downwards and sideways on both side of the vertebral column, covering a space considerably larger than the palm of the whole hand. My explorations were made for the most part on the left side of the abdominal cavity, and after ascertaining with some indefiniteness the attachments of the growth my courage gave out, and I thought it wise to replace the tumor and close the incision. It seemed a shame to shut up this great mass again in the poor fellow's abdomen, but I was afraid that I could not control the hæmorrhage accompanying its removal, and I feared that some of

¹ Read before the Boston Society for Medical Improvement, December 11, 1882.

the abdominal organs, particularly the intestines or a kidney, might be included in the tumor. It was with the greatest difficulty that the tumor was pushed under the abdominal parietes, and behind the pubes, and held there by three strong men while numerous stitches brought the edges of the incision together. Finally fifty-six stitches held the wound firmly, and the tumor remained within the abdominal parietes. The patient recovered completely from this exploratory operation, and showed great strength of constitution. His convalescence was accompanied by much pain and diarrhoea, but the wound healed rapidly and solidly. He returned home at the end of four weeks and gained strength quite fast. He gradually increased his exercise until he began occasionally to come to Boston (from Cambridgeport, where he lived, a distance of about two miles) in the horse-cars. The weight of the tumor annoyed and distressed him, but he found it much easier to carry after his wife had made a stout supporting sling, held up by straps over his shoulders.

As time went on he became anxious to be relieved of his burden in order to be able to work and earn his living. After due consideration and reflection we decided to remove the tumor. Mr. G. said, "My life will not last long with this increasing burden, and if there is such a thing as removing the tumor I wish you would do it. I am not afraid to die, doctor, and it's neck or nothing this time." From the knowledge obtained at the exploratory operation, and from the endurance the patient had shown, I began to think that perhaps I *could* safely remove the tumor; that perhaps its attachments were not inseparable, and that perhaps I ought to have persevered when I had operated before. Whether our decision was wise or foolish the operation was decided upon. On the 5th of February, 1882, I made another attempt, assisted by Drs. A. T. Cabot, E. G. Cutler, M. H. Richardson, F. C. Watson, Mixter, Russell Sturgis, and Messrs. Sparhawk, Holden, Godding, and several others. Two tumors, weighing with their pails fifty-seven pounds, were removed. An incision about seventeen inches long was made to the left of the scar of the exploratory incision, and a transverse one about four inches long was made on the left side at right angles with the longitudinal one. The large, lobulated, fatty tumors had no anterior adhesions except to the cicatrix of the former incision, but they were adherent to the ascending colon, which crossed them transversely. The tumors seemed to have originated behind the peritonæum on the right side, and had pushed all the bowels towards the left side except the ascending colon. If these tumors had been situated outside the skeleton (that is, outside any of the great cavities of the body) they could have been safely enucleated. They were covered with a capsule, and from this they could be peeled out. The capsule was more or less torn and ruptured, and the tumor raised with great difficulty owing to its weight. The ascending colon was separated from the tumor and rolled off, after dividing and tying most of its mesentery. The vascular attachments were clamped and tied and burnt off from time to time as was necessary, and the tumor was lifted out of the abdomen. When this tumor was removed another one, apparently purely myxomatous, was exposed to view. After some hesitation this was removed also. It occupied the right lumbar and hypochondriac regions, and had pressed the liver upwards and to the left into the epigastrium. The shining capsule (peritonæum) of this

tumor was tough and strong; some of it was removed with the growth, and some of it was peeled off and left behind. All bleeding points were secured and the abdomen thoroughly cleaned. Another tumor was now seen, about ten inches long and lying on the abdominal aorta, pulsating with it. This was not disturbed. Everything looked as favorable as one could expect after so severe an operation; there had not been much blood lost; the pulse was 85, and feeble, but not extremely so. Two atomizers had played a spray of a five per cent. solution of carbolic acid upon the abdomen, and the operation had been thoroughly antiseptic. The intestine which had been pushed off the tumor, or rather from under which the tumor had been withdrawn, was largely deprived of its mesentery and might not be well nourished, but with this exception affairs looked as promising as after a severe successful ovariectomy. The patient was placed in bed with his feet elevated and warmed with hot bottles. The operation lasted an hour and a half. During the afternoon (the operation having been finished at half-past twelve) he seemed to be doing well, and at half-past five asked for a drink of water. His wife brought it to him, when he said, "I think I am going," and died.

I append an account of the autopsy and a description of the tumors, by Dr. W. W. Gannett, who has kindly written them out for me.

Autopsy, February 7, 1882, forty-six hours after death. Body medium size, fairly developed, considerably emaciated.

Anterior abdominal walls flaccid, flabby, and thrown into numerous folds. A linear incision from about ten centimetres below xiphoid cartilage to pubes. Short cross incision at umbilicus stitched together. In abdominal cavity about fifty centimetres of bloody fluid. Ascending colon hung free like a rope in the abdominal cavity, having no meso-colon, its usual point of attachment showing a reddened, ragged edge. The whole posterior right wall of the abdominal cavity a ragged, irregular surface (from this the tumors had been removed). On the left side, posteriorly to the peritonæum, was a flattened round mass the size of a man's head showing the same fatty mucous structure as those previously removed. Another mass, about three times the size of the first and of the same structure as the preceding, lay over the inferior vena cava, and was adherent to it and to the duodenum. The right kidney was of the usual size and density and of a pale color. On section it showed a yellowish opacity of the cortex (moderate degree of fatty degeneration). The left kidney was apparently normal. The other organs presented no unusual appearance. The head was not examined. The tumors were retro-peritoneal.

DR. GANNETT'S REPORT OF THE TUMORS REMOVED FEBRUARY 5, 1882.

A. A flattened globular mass measuring $38 \times 33 \times 12$ centimetres, and weighing twenty-five pounds and three quarters. The outer surface showed a shreddy, glistening white surface, from which numerous thin connective tissue layers can be picked off. One portion was hanging loose, and a mass of connective tissue about 20×20 centimetres and about three millimetres thick formed a thick, tough membrane, the under surface of which (corresponding to the tumor) was ragged, the upper smooth and shining. The density of the mass was about that of firm wine jelly. On section the cut surface shows a very delicate pale connective-tissue

meshwork inclosing large spaces which were filled with a thick, syrupy, pale yellow, almost translucent fluid coagulating on the addition of acetic acid.

B. (The second tumor.) A coarsely irregular mass of pale yellow color and somewhat doughy consistency, measuring $37 \times 31 \times 16$ centimetres, and weighing (with the mass next to be described) twenty-four pounds. On section the surface showed twofold appearances. A homogeneous opaque yellow tissue resembling fat tissue. Imbedded in this were grayish, homogeneous, translucent, soft, gelatinous nodules varying in size from that of a filbert to that of the fist. On scraping the cut surface of the latter a thick, homogeneous, nearly transparent fluid is obtained.

C. A mass similar in character to the last (B), which was torn away from it during the operation of removal, measures $34 \times 17 \times 15$ centimetres, and weighs (with B) twenty-four pounds, and presents the same appearances.

D. Several smaller nodules of a flattened globular form, varying in size from a walnut to a large peach. On section presenting a somewhat translucent yellow, as if made up of a fat tissue rich in connective tissue.

Microscopic examination of gelatinous portions of the above-described tumors (frozen and sections made) showed a stroma made up of very delicate connective tissue fibres running in various directions, and inclosing spaces in which was a clear refractive substance giving a marked mucin reaction. The remaining portion showed the structure of fat tissue.

CASE II. On August 8, 1881, I saw Mrs. V., sixty years old. I learned that she had always been well and strong, and had had several children. Her father died at the age of sixty-six of cancer of the rectum, and a brother had died of cancer of the liver. On examination I found a large fluctuating abdominal tumor, without impulse, and containing solid masses. During the previous six months it had grown rapidly. The umbilical girth was forty-one inches. I aspirated the tumor in many places where fluctuation seemed most distinct, but got no fluid, not even blood. I found that the abdominal parietes in the pubic region were œdematous, and that the lower extremities had been so. Her complexion was somewhat sallow, but had formerly been ruddy. The next day I saw her again, and aspirated with quite a good-sized needle, but could get no fluid, though I think that any medical man would have been almost willing to swear that the tumor was a cystic one filled with fluid. On account of the result of my tapping, and because of the family history, I decided not to recommend an operation. Mrs. V. was bright, sagacious, and sensible. I suggested an exploratory incision at some future time, but rather discouraged any interference. At the close of our interview she said, "Will you come to me, and try to remove this tumor, if I send for you?" I promised that I would do so. She went home feeling that if her situation should become very desperate she should insist upon my keeping my promise.

Accordingly, in March, 1882, at her request, I operated at her home. Her size had increased very much, and her umbilical girth was fifty-three inches; the œdema of the abdominal walls was greater, and her lower limbs were much swollen. The tumor was exposed by a long incision, and appeared to be an immense lipoma. It had originated on the right side, behind the peritonæum, and as it grew had pushed the bowels before it, as in the previous case. It was ad-

herent to the peritonæum, from which it was more or less neatly enucleated with free hæmorrhage at times. The ascending colon crossed over it, as in the previous case, and the cæcum, colon, and appendix cæci were almost incorporated in the mass. The tumor dipped deeply into the pelvis, and almost filled it, and was at length, after considerable hæmorrhage and much shock, removed. The operation lasted about an hour, and the tumor weighed thirty-five pounds. Mrs. V. never rallied, and died soon after being placed in bed.

Dr. Gannett reported that the tumor was a pure lipoma.

It seems to me proper and important to put these cases on record. The propriety of operating is, of course, open to discussion. It is very hard, however, to stand by and see persons sink slowly away from mechanical pressure, which you cannot remove by tapping, and make no effort to relieve them, and we are able to do so much now in the way of abdominal surgery that I felt encouraged to make these efforts.

Mr. Cooper Forster showed, March 14, 1868, a monster fatty tumor, removed post mortem from the abdomen of a woman he had been asked to tap. Both Dr. Wilks and Dr. Hicks believed it to be a collection of fluid, the percussion wave being perfect. The ascending colon lay in front of the tumor, and there was a little fluid between it and the walls of the abdomen. It was adherent to the diaphragm, and when removed weighed fifty-five pounds. It had no distinct pedicle, so it was a question how it originated.

The case of Mr. Forster is printed in the *Medical Times and Gazette* for 1868, vol. i., p. 300, and for the reference I am indebted to Dr. Neale's Digest.

It will be seen that these two tumors I have described and the one exhibited by Mr. Cooper Forster were crossed by the ascending colon, and it would seem impossible to remove such tumors without disturbing the vascular connections to such a degree as to cause gangrene. In another case I should be rather inclined to make an artificial anus in the cæcal region, or resect the intestine that had been deprived of its mesentery. The latter procedure would be extremely difficult in the case of the ascending colon, which is much bound down in the right lumbar region. At my request Dr. Gannett has carefully searched all the German, French, and English periodicals and publications, but has not found a single case of retro-peritoneal fatty tumor. Fatty tumors of the omentum and mesentery are not very unfrequently described. Leopold¹ and Kroner² have collected seventy-six cases of extirpation of the kidney, but none for fatty or mucous tumors. One of these was a retro-peritoneal fibroma, removed by Billroth.³ Bruntzel, Breslau, reports⁴ an extirpation of the left kidney for a fibroma of the renal capsule, weighing thirty-seven and a half pounds, and followed by recovery, with a fæcal fistula. The patient was an unmarried woman, thirty-three years old. The tumor was of eight years' growth, and painless. Bruntzel's treatment of the wounded and torn peritonæum is interesting and instructive. In removing the tumor (which was retro-peritoneal) the peritoneal sac was twice incised. The two ragged posterior peritoneal surfaces were brought into contact, and the anterior edges were stitched to the anterior abdominal wall in

¹ Archiv für Gynäkologie, xix., Heft 1.

² Ibid., vol. xvii.

³ Wiener Med. Wochenschrift, 1880, No. 28. Reported by Buselman.

⁴ In the Berliner klin. Wochenschrift, December 4, 1882, No. 49.

the lower part of the incision, thus providing for drainage from the space between the two folds. The paper is a highly interesting one, and is made clearer by two wood-cuts. The tumor was a fibroma with considerable fat tissue in it.

OCULAR SYMPTOMS AS LOCALIZING SYMPTOMS.¹

BY S. G. WEBBER, M. D.

THE third case was one of temporary, intermittent paralysis with conjugate deviation. As the symptoms were described to me at first, without seeing the patient, I ventured to guess that it was a case of epilepsy, and suggested the use of bromide of potassium until I could see her a day or two later. This drug did not give relief, and when the patient was seen and carefully questioned and examined, it seemed possible that the symptoms might come from local disturbance of circulation, or that there was some small spot of degeneration.

The result supports the view that the early symptoms were caused by a disturbance of the circulation, continuing only a short time, and that then the blood took again its normal course. The extensive atheroma of the arteries, and the great change in the basilar and its branches, renders such a temporary interruption of the circulation quite probable.

Benjamin Ball² reports cases of paralysis which he thinks were due to "contraction of the vessels supplying certain provinces of the encephalon, without structural change, either in the vessels themselves or in those parts of the brain the functions of which were momentarily suspended." He thinks this "spasmodic contraction of the brain vessels may persist for a considerable length of time without producing structural changes in the nervous centres;" and that "the morbid condition may, in certain cases, suddenly disappear, while it is not unreasonable to suppose that the converse may be equally true, and that the symptoms may culminate in rapid or even sudden death."

CASE III. INTERMITTENT LEFT HEMIPLEGIA, WITH CONJUGATE DEVIATION TOWARDS LEFT; DISEASE OF ARTERIES, PLUGGING OF BASILAR; SOFTENING IN PONS AND CEREBELLUM.

Mrs. A., aged about seventy, had been very well all her life, though during three years she had had considerable worry and anxiety as well as grief in the sickness and death of children and husband. Three months before she was seen she was suddenly attacked with flushing of the face and a sensation as if she was about to faint; she sank into a chair; the left arm became powerless, there was a tingling sensation in the hand, and then motion was restored; there was no loss of consciousness. The same day she had another similar, though less severe attack; after that none for several days. They recurred at varying intervals, were lighter, but became more frequent; they had the same characteristics; there was no pain, and no loss of consciousness. After the attack there remained a tingling or numb sensation in the fingers.

There was no paralysis of the leg, simply a slight weakness; once or twice there was tingling in the left leg. Only once was it thought by a daughter that the right side was affected and the left not.

The left side of the face was paralyzed, at least in some of the attacks, the eyelids closed, the left eye turned outwards.

During the attack she could articulate; many of them occurred in the night or early morning, some during the day.

When seen there was nothing abnormal to be noticed in the motions of the eyes, pupils, face, tongue, or hands; she did not walk very firmly, but there was no unsteadiness; sensation was normal; the ophthalmoscope showed no change in the fundus of the eye.

A week later she was worse, had had several severe attacks of paralysis on the left side, then both eyes were turned to the left, the lids were closed most of the time; no observation was made as to whether she could move her eyes to the right. The left hand continued to feel numb all the time, even between the attacks. Once all four limbs were paralyzed, and she was unable to speak; a dose of whiskey seemed to restore motion and speech.

Finally, during Thursday night, she had an attack, the respiration became stertorous, the paralysis varied from side to side, sometimes the right side seemed paralyzed; the eyes did not deviate; Cheyne-Stoke's respiration for twenty-four hours, then it was regular in rhythm, but shallow; the next morning she seemed to recognize some who were about her; Saturday she died.

The autopsy was made three days after death, with the assistance of Dr. Broughton. The skin was very yellow generally. Dura mater was very adherent to the skull; the convolutions of the brain were shrunken, but not more than might be expected; the space left by this shrinking was filled by serum in the meshes of the pia mater, which was not thickened. There was a deeper depression at the upper part of the right anterior central convolution than elsewhere. No adhesions of the pia anywhere. The arteries at the base were very generally atheromatous, but seemingly not more so on one side than the other. The basilar artery, at about its middle, was entirely plugged up by a firm, light-colored clot; there was no coagula either side of this clot, indeed, very few coagula were found anywhere. For one inch in length the basilar artery was very atheromatous, and gave off only small branches, excepting one rather large running to the left, which, however, was nearly closed by the atheromatous thickening of its walls.

Both crura tore easily in taking out the brain, and seemed softened; the upper and anterior portion of the left lobe of the cerebellum was very soft; in the right half of the pons, just anterior to the fifth nerve, and apparently among the pyramidal fibres, was a discolored softened spot. At this point in the pons, and more markedly in the softened tissue of the cerebellum, the microscope showed granular corpuscles about the vessels and in the nervous tissues, also fat corpuscles about the vessels. The crura cerebri were not changed.

The posterior lower portion of the lower lobe of the right lung was dark red, solid, without air, the vessels pervious.

The aortic and mitral valves contained extensive calcareous deposits, the edge of the mitral valve was thickened, and contained a very large amount of this deposit.

The kidneys had thin cortices, the capsules were slightly adherent; post-mortem staining. Spleen small. All other organs normal. The blood was very fluid,

¹ Concluded from page 220.

² British Medical Journal, October 30, 1880, page 693.