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LARGE FATTY TUMOR OF THE LEFT THIGH.—[With two plates.]

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[Read before the Boston Society for Medical Improvement, Oct. 27th, 1856, and communicated for the Boston Medical and Surgical Journal.]

MR. BENJAMIN M. MC—— is a small, spare-built man, æt. 36, with very dark brown hair, grey eyes and a sallow complexion. About ten years since, he strained the adductors of his left thigh. No other effects followed immediately than what usually take place after muscular strains; and the fact itself may be of no importance except that when asked if he knew any cause for the tumor, he adduced this, as within the range of possibility.

In a few days he thought no more of the strain, as all its apparent effects had passed away, and he had no further trouble at the seat of the lesion, till three years and a half since. He then, after coming out of a bath, noticed, for the first time, that his left thigh was apparently a little larger than the other, at its upper part in front, just below the groin. This increase in size seemed general over the above-mentioned region, and so slightly marked, that, as it gave him no pain nor uneasiness, to use his own words, he thought it nothing abnormal.

About two months afterwards, this enlargement becoming still more apparent and defined, he showed it to his family physician, Dr. A——, who, he states, seemed to regard it as a serious matter, probably a solid tumor, deep seated at its base, containing no fluid, and possibly malignant. By his direction, the tumor was painted frequently, and to vesication, with the tincture of iodine. This application seemed without any effect in diminishing the growth, and its increase became steadily, though slowly, more and more decided, till the expiration of a year from its first commencement, when it began to swell out from the inside of the upper part of the thigh, and quite beyond the normal outline of the limb. At that time it was entirely painless and without sensation to the touch, as large as an orange in size, soft, uniform in its shape, and not at all pendulous, though perfectly movable. No change in patient's general health was observed then or at any subsequent period. In 1853, the growth being then somewhat more than a year old, an exceedingly

given in the differential diagnosis. Still, in reality, no decided or correct opinion could be given till an exploratory incision, carried down to the mass, fairly exposed some portion of it, with the opportunity of removing a small piece, and, if necessary, subjecting it immediately to the microscope. This would remove all uncertainty.

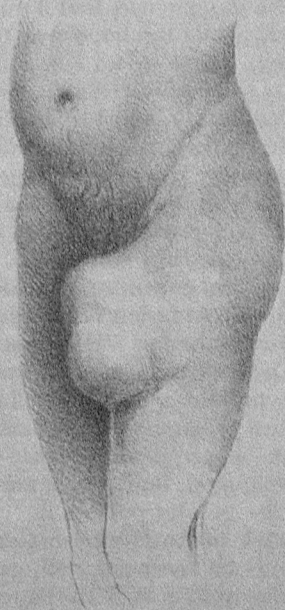
Anxious that such an interesting case should have all possible light thrown upon it, I asked him to visit the Hospital with me to see what a consultation of the surgeons would develop. The result was that all, with one exception, pronounced in favor of a fatty tumor.

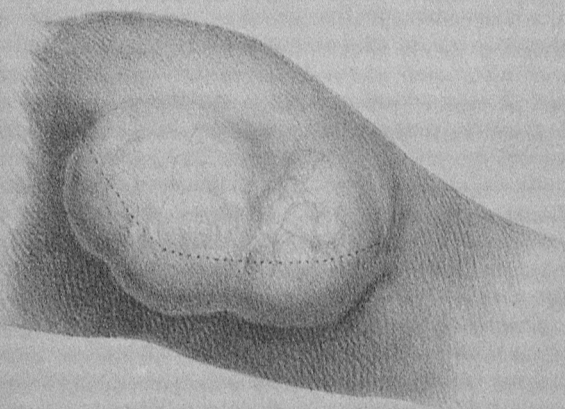
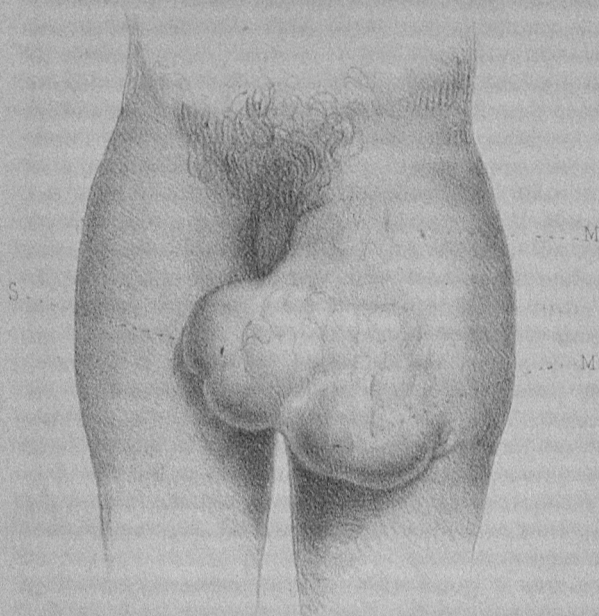
The following opinions, as nearly as can be recollected, were expressed concerning it. That it was a soft tumor, without fluid, perhaps malignant, not fatty. Again, it was situated deep under the artery, and apparently as much on the outside as on the inside of the vessel. It might be connected with the periosteum. This is the place usually occupied by malignant growths. Considering the size of the tumor, three years seemed rapid for anything but a malignant growth. However, the non-enlargement of the glands, and the kindly healing up after exploration, seemed against its being malignant, as well as the absence of the enlarged superficial veins, and the pulsation so common in encephaloid. It might possibly be an enchondromatous or a fibro-plastic growth; and then again, fat often giving false fluctuation, it might be, in spite of the unusual position, a deep-seated fatty tumor underneath the fascia. The hard portions might be from the induration of fat by friction. Probably a deep-seated fatty tumor. Cutting down upon it advised. Again, that the danger was that it might be connected with the bone and malignant, while the hope was that it was fatty. At the same time that it felt, where it had come through the fascia, like a fatty tumor. Fatty, probably. Again, evidently not malignant, because it healed up so kindly, and because it was so movable and easily rotated. Non-malignant—a soft solid—no liquid contents. Advised an exploration. It was then urged that its kindness in healing was no proof absolute of its non-malignant character.

Plate No. I. will give a good idea of the tumor as it appeared at the consultation, on July 10th, 1855.

The result of the consultation was then told to the patient, who wished to defer an operation for the present, in order to transact some business matters at home. He then left for Cincinnati, promising to return in October, and have an operation. It was also told him that operative measures would be planned, and every step and precaution adopted previous to the operation, so that in case the tumor was found to be an innocent one, the primary incision might be sufficiently prolonged, and others made to facilitate the removal of the whole or the greater part of it.

He came back to the Hospital, October 15th, looking as well as last July. Says he has been well, generally speaking, only suffering occasionally from a little dyspepsia. The following additional





Dr. J. H. Howard

and interesting statements were made in connection with the tumor, namely, that several months have always elapsed before any appreciable change in its size, and that within the last two months its growth has been much more rapid. With regard to its mobility, he says that when it was about the size of an orange, it would recede on compression, so as not to be grasped easily. It has grown more and more movable with its increase. With regard to pain, says, as before mentioned, that he has never had any in the tumor itself, but that sometimes, after walking especially, has had a slight uneasiness about the lower part of the back and left hip. This he describes as after all being a feeling of uneasiness, rather than of pain or soreness. There has never been any œdema of the limb below the growth, as might naturally have been expected. Appetite has always been good, and powers of digestion generally sufficiently active. Has had an occasional attack of "bilious diarrhœa," for which he took pil. hydrarg. p. r. n. Has been in the habit of walking about for two hours, every day or two, and says he comes back "pretty fresh." Declares laughingly, that the left is his best leg, especially as he is liable to occasional rheumatic attacks in his right one. Remarks that now and then he has fits of depression, nervousness and some mental anxiety.

Plate No. II. presents a good view of the increased growth of tumor, when the patient entered the Hospital, October 15th, 1855.

The tumor's relations, description and dimensions will be given as taken a few days before the operation. The situation was at the superior part of the thigh, occupying its anterior, internal and external aspects. Of its borders, the upper was well defined, about an inch below Poupert's ligament, passing from the tensor vaginæ femoris muscle inwards towards the gracilis; the lower was lost insensibly beneath the sartorius and rectus muscles at the middle of the thigh; the inner projected several inches beyond the normal outline of the thigh, irregular and movable; the outer pushed out the tensor vaginæ femoris, making the contour of the limb more than naturally convex.

The whole growth apparently proceeded from, and was connected with, the deep-seated point of origin, on the inner side of the femur, about two inches below the trochanter. The smaller half was deep seated; the larger half was superficial and projected beyond the normal outline of the thigh. Into these two portions it may be divided; the *superficial* forming the internal one, just beneath the skin, projecting several inches, with its free, cutaneous face divided into two large globular lobes, of the size of a fist, with these lobes subdivided into smaller flattened lobules, distinct and easy to enucleate. Most of the lobules were soft and elastic; one or two that were most exposed were a little harder than the others, perhaps from friction or inflammation induced by the operations. There was the cicatrix from the incision upon the upper rounded mass (see S), and from the trocar on the lower one (see lower M). One lobule in particular, underneath, was very movable and almost pendulous.

There is a constricted portion or neck, where the growth pushes through the fascia. The whole mass was freely movable in every direction.

The *deep-seated* was beneath the fascia lata, femoral artery and vein, sartorius and rectus muscles and tensor vaginæ femoris, tense, elastic to the touch, with a more suspicious feel of liquid fluctuation, and without the lobular feeling, as in the part that had escaped through the fascia after the incision. The whole anterior and external portion of the thigh seemed enlarged and swelled, with a more regular contour than the internal. On the external border was seen the cicatrix from the trocar. (See upper M.) During contraction the muscles were fully traced over the tumor. By slight pressure from the inside the tensor vaginæ femoris was made prominently convex. The femoral artery passed, for three or four inches, over the middle of the tumor, and from that point is gradually lost in the deep-seated parts. The maximum strength of pulsation was felt in the upper two thirds of the tumor, and ceased altogether in the lower third. The skin over all this region was natural in look and softness, and perfectly movable. The subcutaneous veins were enlarged and tortuous, over the free, projecting mass, but there was none of the fine, threadlike vascular redness, so common in advanced malignant affections.

There was no tenderness in any spot, on superficial or deep pressure, no enlargement of glands in groin or pelvis.

Greatest circumference about largest part of the

tumor, including thigh,	37 inches.
At same point, on opposite thigh,	26 "
Circumference of projection,	13 $\frac{3}{4}$ "
Length of " "	8 $\frac{1}{4}$ "
Circumference of thigh, just below projection,	23 "

In making up the diagnosis of so large a tumor in the inguino-femoral region, particular reference will now be directed to the various conclusions of different surgeons, in regard to the indications or symptoms bearing upon *fluid, encephaloid, fatty tumor, fibro-plastic* and *vascular sarcoma*.

Fluid—Multilocular Cysts.—There appears no alternative but to exclude altogether the presence of fluid. Upon this point there has been a decided and positive proof that there was not any present, by surgeons eminent for their knowledge and experience, for their tact and thorough manipulation, for their surgical eye and touch. At first, so strong was the feeling to them that there must be a fluid, that operative measures were used by different instruments and in different situations, at intervals of time, by the trocar and canula, and by an incision three quarters of an inch in length, so that the finger was passed into the opening, the mass felt and pushed back. This supposed feel of fluid was probably much stronger before the disease protruded to any extent through the fascia. The free, protruding, prominent portion on the inner side of the thigh felt elastic, of a consistency rather too firm for a fluid, and on pressure with

the thumb and finger it would be said that the mass receded, slipped away, instead of giving the impression that the finger and thumb touched through an intervening sac but partially distended with fluid. On the outer and anterior portion, under the sartorius and rectus muscles and fascia, the feeling of deep liquid fluctuation was more strongly marked and deceptive. Here no lobules were felt. So the question and doubt were between elasticity and fluid. Besides, if there was a fluid, what was its nature and origin? There had been no symptom nor appearance whatever to refer it to any disease of the vertebræ or ilium, no symptom of articular trouble, no symptom of local inflammatory or traumatic affection, particularly such as to produce, if fluid, so multilocular a growth. The knowledge of all this, in spite of the puzzling feel transmitted to the fingers, together with the positive result of the operative proceedings, seemed to be a good and sufficient reason that fluid should be entirely excluded.

Encephaloid.—The history of the case is rather against it. Its slow, gradual growth of at least three and a half years, the non-enlargement of the neighboring glands, its free mobility, the non-incorporation of any of the surrounding tissues (a malignant mass of that size would in that period of time, in all probability, have involved the adjacent textures, and rendered all more adherent, less movable and circumscribed, and impeded muscular action, produced pain and swelling of the foot and leg, with other local symptoms), its freedom from any distinct, characteristic local pain, it being merely a feeling of weight and consequent uneasiness, and its dormant, torpid state after the exploratory operations. Though this circumstance, with its immediate cicatrization, and the mere enlargement of the superficial cutaneous veins, of themselves and alone do not amount to much of anything of value against its being encephaloid. To be sure, at some points the elastic feel so peculiar to encephaloid was observed, but not enough and of sufficient density to give to it a definite character. The lobules were too movable and floating, too easily traced to, as it were, a common base, and in fact the whole mass was not so heavy as an encephaloid growth would have been after it had reached that size. Then, also, there was no apparent inflammatory action about it, either externally or internally, no tenderness nor pain on pressure, or rotating it about. The increase of encephaloid growths is more steady and progressive, without the sudden starts and stationary intervening periods. As a general rule, encephaloid has a firmer, denser feeling than fatty swellings, and carries with it an idea of greater relative weight.

Fatty Tumor.—It will undoubtedly be conceded that the feel of fatty growths has been not unfrequently mistaken for fluid. At some periods of encephaloid affections, the feel resembling liquid fluctuation is certainly very strong. There are many cases of fatty tumor, in which by the mere touch, unaided by the sight or any previous history of the case, it is almost impossible to describe the mi-

nute shades of difference between soft elasticity and fluctuation of a fluid. In true elasticity there seems to be more of an idea of rolling about, displacement or receding to the touch, even when the substance is pretty firmly fixed; in fluctuation, the diagnosis may be positive and quick where the fluid is circumscribed, but still not so clearly so in all cases of cysts. In common acute inflammatory abscesses, superficial and deep, with the fingers of both hands alternately applied, we easily feel the ends of the fingers rise up, rather than displaced laterally. In case of a cyst, however, the affair is more difficult and obscure, particularly if it is small. If there happens to be only a little fluid and with thick walls, or if the cyst is full, distended and tense, as in some hydroceles, then it is almost impossible to detect fluctuation, and we have rather a lateral displacement or receding, than a perpendicular rising up of the fingers, as where there is a clear case of fluid. In some given cases it is impossible to say whether fluctuation is present or not, though liquid may afterwards be found.

There may be liquid without fluctuation, and there does not appear to be any rule or fact that can decide as to its presence in all doubtful cases. Every surgeon will acknowledge that he has made mistakes in regard to fluctuation, and that in many instances fluctuation is as clear as the existence of a swelling, in others it is equally obscure and deceptive, and that many a swelling is cut into without the slightest suspicion of fluid, and *vice versa*. As there is liquid without fluctuation, so there may be fluctuation without liquid.

The peculiar feeling conveyed to the fingers which is called fluctuation, carries with it the idea of the presence of a liquid. This is correct in the vast majority of cases, and may be called liquid fluctuation in contra-distinction to the fluctuation found in the so-called soft solids, such as fatty tumors, erectile growths, certain stages of encephaloid, and in the palm of the hand, palmar surface of the fingers, and on the back of the hand, towards the termination of long-continued suppurative cellular inflammation, when the thick, cuticular covering being removed, a soft, elastic, almost flabby state of the parts is exposed, giving the often deceptive feel of liquid beneath. The same feeling is observable, also, in large, extensive masses of not firm and pulpy granulations. The soft, elastic feeling from all these is at times so similar to the feeling of fluid, that the shades of difference cannot be noted, and a knife is plunged into them, to be followed only with blood. Fluctuation cannot be strictly limited only to liquids, though, as the term is usually employed, it implies the presence of some kind of fluid.

In the present case, there having been the strongest evidence against fluid, the feel of fluctuation, so deceptive to so many surgeons, must proceed from something else. There are many reasons for its being a fatty growth, namely: its distinctly multilobulated appearance, the different sizes and easy enucleation or separation of the lobules, its generally soft, elastic, yielding and receding feel, its comparative lightness, its perfect mobility laterally, longitudinally

and up from the bone, its slow increase from the time when first noticed, the entire freedom from true pain (the feeling being rather a sense of dragging and inconvenience from its weight and size), its want of tenderness on pressure or handling, the absence of any inguinal or pelvic glandular disturbance and enlargement, the circumstance of its being uninfluenced by the many manipulations and operative measures upon it, and the entire freedom from any local disturbance, as there was no change in the nervous, circulatory or muscular functions of the part, nor in the abdominal viscera.

These facts, taken separately and collectively, led to the conclusion that it was not malignant but innocent, and if innocent the chances seemed to incline most strongly on the side of a fatty tumor to the exclusion of others.

To be sure, at first view, the region and its deep-seated origin would be rather opposed to the idea that it might be fatty. And, indeed, it was objected to its being a fatty tumor, that it was no place for one, that its original seat was too deep. To this it will be a sufficient answer to say, that where there is adipose tissue there may be adipose disease or hypertrophy, and that a fatty tumor *may* appear in any locality, superficial or deep, where fat is, provided that the condition or conditions favorable to its origin and growth are the same; although it will be allowed by all, that there are particular localities, where we more usually and frequently find them.

Fibro-plastic.—It may be stated that, in all probability if it were a fibro-plastic growth, of over three years' duration, it would have been more adherent to some of the adjacent parts, bone or muscle, and in this region not so movable, not so distinctly lobulated nor so separable. The lobules would not be so movable and yielding, but firm and rather like the tubera of potatoes, but not so closely packed and grapelike as in large glandular tumors. Again, the feel would be rather of a harder, firmer mass, perhaps intermediate between a scirrhus hardness, and a soft, yielding solid and liquid, and without that suspicious feel of fluctuation from a liquid, though liquid may be found occasionally in some fibro-plastic masses, as in scirrhus and encephaloid affections. The general character of the swelling seemed against its being fibro-plastic, which would be not so hard as a scirrhus, but harder than fat and less yielding. The sensation was of the soft, elastic, fatty feel, rather than the harder, firmer one of fibro-plastic. The lobules were separately movable, distinct and easily enucleated, whereas the prominences, bosselations or tubera of fibro-plastic growths would not move without the whole mass moving with them.

Vascular Sarcoma.—This was entirely excluded, as there were none of its appropriate symptoms present.

Neither glandular disease, enchondroma nor osteo-sarcoma had any bearing upon the case.

October 17th.—Called to see patient this evening, and found him comfortable, reading Burton's Anatomy of Melancholy. This is

the record made at the time, and may have an interesting connection with the unfortunate result to the patient.

18th.—A second consultation was held this morning, and the following are some of the opinions expressed; that it felt much more like fluid than it did (all the remarks have reference to the free, projecting, inner portion of the tumor); it being examined with a lamp, after the manner of a hydrocele, there seemed to be no translucency at any part, though at first it was thought there was; and that if it contained any fluid, it was not a clear, but an opaque, possibly a sanguinolent liquid; that the feel was as of a bladder blown up with air, or as if it was a spongy tissue, not erectile and filled with fluid; if a fibro-plastic tumor, perhaps adherent to the muscles; its adherence to the bone doubtful, possibly adherent to the capsular ligament. Its being a fatty tumor did not exclude all idea of its fluidity, inasmuch as a fatty tumor has sometimes a cyst containing oil within it. History and feel of the tumor against its being encephaloid. On the whole, if diagnosis was compulsory, should say, *fluid* contents.

Others thought the lobules much more distinct, and that the indications were stronger for a fatty tumor than at any previous time.

Oct. 20th, 11, A. M.—This morning the patient walked up to the operating room, with the most perfect apparent calmness and resolution, as if the tumor was a perfectly simple one, and as if the operation must be entirely successful. He was always confident that it could be removed.

Operation.—The patient being fully etherized, an incision about three inches in length was made along the free border of the projecting mass to the inside of the femoral vessels, and carried immediately down to the tumor. The first appearance of the lobular mass, when exposed, was rather equivocal and unpromising, looking at one spot somewhat like encephaloid, at another like fibro-plastic. On continuing the incision deeper, some clear yellow lobules were turned out, which left no doubt of the fatty nature of the tumor. The primary incision was then prolonged from each extremity, so that it was twelve inches or more in extent, as is represented in the plate by dotted lines. The fascia lata was then freely divided, and the hand of an assistant was passed in under it so as to raise up the femoral vessels and anterior flap. But little cutting was done, and the whole mass was removed much more easily than was expected, inasmuch as it was at first thought that another opening in the external aspect of the limb might be required. Much less bleeding occurred than was looked for. The growth almost surrounded the bone, but it was easily separated. A few arterial branches were tied, and the flaps were placed in apposition without sutures, and a water dressing covered with oiled silk was applied to the wound. The weight of the tumor was within a small fraction of *six pounds*.

7½, P. M.—Patient much less calm than was expected from his

previous deportment. Inclined to toss about, and begs for something to still his nerves, or "else he shall go crazy." R. Elix. opii, gtt. xxx., by house-surgeon.

21st.—Says he passed a miserable night. Reports that he cannot take opium. Does not complain of any pain or soreness in wound. No inflammation present. From being perfectly calm and resolute before the operation, he is now fidgety, nervous and complains like a child. Everything goes wrong with him and around him. Thin white coat on tongue. Pulse 98. Hands rather hot. R. Pil. hydrarg., gr. x., ft. pil. No. 2. R. Inf. humuli, inf. absinth., āā p. æ. M. For drink. R. Liq. aminon. acetat., spir. æth. nit., æth. chloric, tinct. humuli., āā p. æ. M. 3ss. every three hours.

22d.—Says he feels generally better. Pulse slower. Hands comfortably cool. No pain whatever in wound. Some inflammation and some appearance of sloughing of cellular membrane. Has some uneasiness in epigastric region, with slight pain.

23d.—Very restless during night. No inflammatory redness, but some swelling about wound. Complains of everything he puts into his stomach. Says he cannot bear anodynes of any kind, that they will kill him.

24th.—Seems as if the patient's nervous system was completely unstrung. Rested poorly. Pulse not so good. Vomited this morning, and complains that everything pains him that he takes in the way of nourishment. Was obliged to omit stimulants. Brandy disagreed with him, and "whiskey burned him like melted lead." Complained of acidity of stomach. Different antacids were tried without effect. Abhors all nourishment but gruel or arrowroot.

25th.—Some granulations along the borders of the wound. Discharge somewhat offensive. Is using a charcoal poultice. Declares positively "that he will not take any more nourishment by the mouth, for it is just murdering him."

28th.—No change in his nervousness till to-day. Nothing seems to suit him. Has tried almost everything in the way of anodyne, by the mouth and rectum. Beef tea, arrowroot and gruel have been given by the rectum, but they all distress his stomach. No tonic can be borne. Granulations healthier and firmer. Discharge not great. Feels stronger this morning. Asks for, and may have, a bedchair with arms, and sit up a little.

29th.—Feels better, with the exception of pain in the left knee, which is swollen, and evidently fluctuating beneath the patella. No apparent inflammation. Flaxseed poultice was applied, and, on calling to see him, about 5, P. M., the patient remarked that the poultice on the thigh was "drawing finely." Swelling of the knee had disappeared entirely. On looking at the thigh, it was found that instead of the poultice drawing finely, a venous hæmorrhage had taken place. The wound was examined; no open vessel could be found, and a sponge was inserted between the flaps and retained by slight compression. Directions were given in case of a return of the hæmorrhage. Very shortly afterwards, the house-surgeon

found the bleeding continued, apparently coming from underneath the upper flap, far in towards the external aspect of the limb. The sponge, compress and bandage were re-adjusted. I saw the patient at 10, P. M.; found his pulse not so weak as expected; gave him some whiskey, and applied tannin with the sponge, without any good effect. Then resorted to the perchloride of iron, which seemed to produce a powerful styptic effect. The bleeding stopped. Whiskey being administered to him, a special watch was left to keep the wound constantly in view. His brother also watched with him. Patient was seen feeling his pulse at his wrist, and I told him he had better not do that. Passing to the opposite side of the room, I saw him with his finger near the inner condyle of the left arm, and heard him ask the house-surgeon if that was an artery there. Patient was perfectly calm and rational. This was about one o'clock. Two hours afterwards, the house-surgeon was suddenly called to the patient, and found that he had inflicted a wound with a small penknife (having first asked the watch to sit at the foot of the bed, as it made him nervous to see him so near), a little over an inch in length, on the inner aspect of bend of the left elbow, being the point spoken of to the house-surgeon. From this he was bleeding, though not profusely. Endeavors were made to arrest the hæmorrhage, but the patient resisted them in every way, tossing about, uncovering himself when blankets were placed upon him, and finally setting the hæmorrhage going again in the thigh. As he refused all stimulants, and almost literally fought against the house-surgeon, nothing could be done of any avail. At about 4, A. M., he died. It was impossible to determine the amount of blood lost from the arm, from the thigh it was considerable.

On a *post-mortem* examination, the deep brachial vein and median nerve were found to have been severed, while the brachial artery and superficial veins and nerves were uninjured. The stomach was perfectly healthy. The femoral artery and vein were also perfectly healthy throughout. No open vessel was found to account for the seat of the hæmorrhage.

Since his death it has been ascertained that, while in Italy, in 1851, he was very frequently of a taciturn, melancholic turn of mind, and even exhibited a strong suicidal tendency.

NOTE.—It is a pleasant duty to acknowledge my indebtedness to L. M. Sargent, Jr., my valuable house-surgeon. He was always at his post, trustworthy, attentive and working with a cheerful will. In case No. I. he was particularly untiring in his efforts to relieve suffering.

My own notes, with extracts from his Hospital Records, make up Cases I. and II. Case No. III. had the benefit of his careful watchings. The plates are also from his hand. They need no praise from me, as they will speak for themselves.