

persevere either until we feel the ring expanding and a part of the mass going through it, or until fatigue or the condition of the patient warn us to desist. In the latter case we readjust the elastic pessary. In the former case the reduction is commonly effected at last suddenly; we feel the fundus go into its place with a jerk. The restored cavity of the uterus should then be swabbed with a solution of iron, and the patient left to rest.

When well adapted and steadily pursued attempts to reduce have failed, and the patient's life is threatened, then only shall we be justified in resorting to the *anceps remedium* of amputating the offending organ.

When attempts at reduction have failed, the operators have in some cases been too ready to conclude that the cause of failure lay in adhesions. But it is remarkable how seldom this conjecture has been borne out by facts. The truth is that adhesions are extremely rare. It has even been difficult to produce them by proceedings directed *ad hoc* in order to obviate some of the dangers of amputation. The possibility then of adhesions opposing reduction may be practically disregarded if gradual elastic pressure be employed.

Professor White sums up his experience of twelve cases: "The result has been in all the cases encountered, restoration by manipulation on the first trial, and it is believed without serious injury to the tissues, thus confirming the conviction that all cases are curable, irrespective of their duration."

CHAPTER XXIV.

TUMORS OF THE UTERUS; MALIGNANT AND NON-MALIGNANT; FIBROID OR MYOMATOUS; STRUCTURE OF UTERINE TUMORS; SEAT; SHAPE; DENSITY; VASCULARITY; LAW OF GROWTH; CONVERSION OF MUSCULAR INTO FIBROID TUMORS; PROCESS OF EXPULSION, FORMATION OF POLYPUS; FLESHY AND FIBRO-CYSTIC TUMORS; RECURRENT FIBROID; ERECTILE; DEVELOPMENT AND DECAY OF FIBROIDS; FATTY DEGENERATION; SOFTENING; CRETIFICATION; INFLUENCE OF FIBROIDS ON UTERUS, SURROUNDING ORGANS, AND SYSTEM GENERALLY; ENLARGEMENT, DEFORMITY, DISPLACEMENT OF UTERUS; DYSMENORRHEA, METRORRHAGIA, STERILITY; ATROPHY OF UTERUS; ULCERATION, PERFORATION; PRESSURE UPON SURROUNDING ORGANS; PAIN; PHEGMASIA DOLENS, PERITONITIS; SYMPTOMS AND DIAGNOSIS; TREATMENT.

ALIKE for pathological and clinical study, new growths or tumors in the uterus may be divided into malignant and non-malignant. Although there are forms of transitional character which it may be difficult to refer with absolute certainty to one or the other class, it is still convenient to

observe this distinction as far as we can. Thus I propose to devote the present chapter to non-malignant tumors, and another to the malignant diseases generally associated under the common name of "cancer."

Non-malignant tumors are classified first, according to their histological characters; secondly, according to their seat or other clinical characters. It may be stated as a proposition generally true that non-malignant tumors affect the body of the uterus, and malignant growths affect the cervix. //t But in accepting this statement we must be careful in practice not to forget that there are many exceptions. In most cases the seat of the tumor, malignant or non-malignant, exerts a material influence upon the clinical history, and often influences treatment.

For clinical purposes Atlee (*Trans. of International Med. Congress, Phila., 1876*) divides fibroid tumors into those which are usually accompanied by hemorrhage and those which are not.

Fibroid Tumors.—There is perhaps no organic change in the uterus more common than the development of tumors of this character. The statement of Bayle that 20 per cent. of all women dying after the age of thirty-five have fibroid tumors in the uterus is always quoted in reference to this point; and Klob, a more recent writer, says, "Undoubtedly 40 per cent. of the uteri of women who die after the fiftieth year contain fibroid tumors." Although unable to oppose these statements with numerical deductions, I venture to doubt whether the frequency of this affection is so great as these figures would indicate. Admitting their approximate accuracy, two conclusions are sufficiently justified. First, in a large proportion of cases fibroid tumors in the uterus occasion no marked distress, and entail little danger to health or life; secondly, they occur with increasing frequency with the advance of age until the climacteric is reached. I do not know that it has ever been clearly made out that fibroid tumors originate after the climacteric. Undoubtedly they may grow after this epoch, and that very rapidly, but the time of their formation is mainly, if not absolutely, limited to the period of sexual activity. My American friends tell me that fibroids are especially common in negro women. Virchow says they are comparatively rare in women who have borne children, and more common in old maids.

Cruveilhier called attention to the remarkable affinity of the uterus for these fibroid bodies. It must also be borne in mind that similar tumors form wherever there is muscle resembling that of the uterine wall. Thus they are found in the broad ligament, and in the vagina. Although far more frequent in the body of the uterus, where the muscular element preponderates, they occasionally arise in the cervix. Indeed there is a form of fibroid degeneration which seems especially to affect the cervix, producing thickening of some portion of its wall, generally the anterior. This form, however, is not identical with the common fibroid; it is not distinctly capsulated. But tumors in all respects resembling the true fibroids do occur in the cervix. Thus Professor Faye (*Christiania, 1866*) relates a case of unusually large fibrous tumor growing from the anterior lip of the vaginal-portion. I have seen several such cases assuming a polypoid condition. I have also removed several from the vagina quite separate from the uterus. Dr. Höning (*Berlin Klin. Wochenschr., 1869*) relates the case of a woman aged forty-one, who

suffered from dysuria and bowel-obstruction. A tumor the size of the fist projected from the genitals; it sprang from the left side of the urethra. A still larger tumor was contained in the vagina. The mass was a "soft fibroid."

The Structure of Uterine Tumors.—The various names given to these growths attest the varying ideas that have been current as to their nature. Morgagni and Baillie called them "hard tubercles;" Hooper, "subcartilaginous;" then they were called "fibrous;" to this name succeeded the one in common use, "fibroid," or "fibroma." In older writings the term "scirrhus" is often used. Some insist that "myoma," and "fibro-myoma" are more correct designations, whilst Broca regarding the similitude of their structure with that of the uterus, proposes the name "hysteroma." Cruveilhier observed that there were "hard polypi, which consisted in hypertrophy of the tissue of the uterus—such is the one figured pl. vi. liv. xi^e of his work—and others consisting of fibrous bodies developed under the uterine mucous membrane." He thus describes the structure of this polypus: "The figure represents an antero-posterior section of the polypus and of the fundus of the uterus. The tissue of the polypus is seen to be continuous, without any line of demarcation, with the proper tissue of the uterus; it is a prolongation of this proper tissue, and not a fibrous body developed in the thickness of the uterus, capable of being separated by enucleation. The identity between the tissue of the uterus and the tissue of the polypus is such that the closest examination does not reveal the slightest difference."

Cruveilhier does not appear to have suspected that the ordinary fibroid tumor, distinctly defined from the proper uterine tissue, and capable of enucleation, might also consist of muscular fibre in every respect resembling the muscular fibre of the uterus.

Vogel¹ demonstrated the essential identity of structure of the "fibrous" tumor with that of the muscular wall of the uterus in which it takes its origin. One case (Fig. 8 in Vogel's work) exhibits the "mature fibres of a fibrous tumor of the uterus found in the body of a woman who died of puerperal fever. In the fundus uteri two tumors of the size of almonds were found projecting under the peritoneum. They consisted of parallel fibres, forming a thick, very dense, milk-white tissue. The fibres became pale, and gradually dissolved in acetic acid; most of them were long, spindle-shaped cells, which were not affected by acetic acid. The normal substance of the uterus consisted of like fibres, resembling in every respect those of the two tumors."

I have cited the above passage because the observation it refers to was made upon a puerperal uterus. In 1844 (*Guy's Hospital Reports*) Oldham describes the constitution of a polypoid mass which was driven down by the uterus after labor: "The prevailing tissue was a clear unstriped fibre, which, when examined with a portion of the muscular fibre of the uterus, differed only in the latter being more full of cells and blood-corpuseles, which rendered its definition as fibre less distinct than the former."

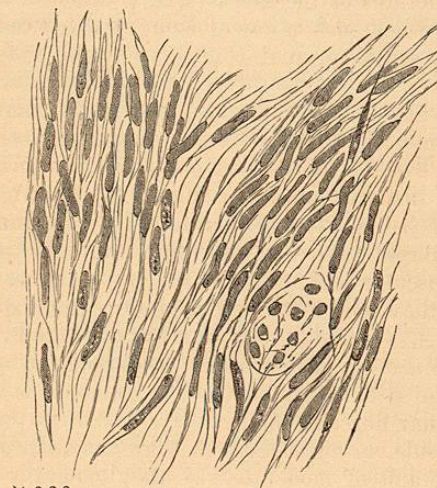
I had an opportunity, in conjunction with Dr. Hassall, of verifying

¹ Erläuterungstafeln zur pathol. Histologie, 1843.

this identity of structure between fibrous tumors and uterus in the non-pregnant state. (*Lancet*, vol. i., 1851.) Lebert, in 1852, describes these tumors as consisting of—1. Cellular tissue and fibro-plastic elements; 2. Muscular fibre-cells like those of the uterus; these come out clearly with acetic acid. In 1853, Bristowe reported to the Pathological Society the result of his examination of two fibrous tumors. Robin says "the muscular fibre-cells are larger than those of the empty uterus, but smaller than in the gravid womb; that they constitute from one-quarter to one-half of the morbid mass; that there is also a large proportion of finely granular amorphous matter, very tenacious, half solid, binding the fibres of the cellular tissue, and also the fibre-cells together." The granular amorphous element tends to increase in proportion to the rapidity of the growth of the tumor. I am indebted to Mr. Henry Arnott for the illustration of the structure of the uterine fibroid or myoma, Fig. 149.

The similarity of constitution, then, of "fibrous" tumors with that of the muscular wall of the uterus in which they originate is now amply de-

Fig. 149.



x 220

Structure of Fibroid Uterus.

Showing structure of waving bands of the long-spindle cells, with rod-shaped nuclei of plain muscular tissue; the nuclei stained with carmine. At one point a few cells divided transversely. (Anat., by H. Arnott.)

termined. But I think this similarity is somewhat overstrained. At any rate we must distinguish two forms, the hard and the soft tumors. I am glad to find this opinion confirmed by Sevastopulo, who represents the views of Broca (*Des Hystéromes, Paris, 1875*). "Hard myomas," he says, "are chiefly or wholly formed of fibrous elements, so that the name myoma would be quite improper if it were not known that the fibrous element had been gradually substituted for the muscular, and had in a way choked it. Soft myomas, on the other hand (Virchow), are almost entirely constituted of muscular elements. They occur in younger women than the hard." We do, indeed, find the same histological ele-

ments; but certainly they are combined in different proportions, so as to produce marked differences in some of the physical characters. For example, the "fibroid" tumor is commonly pearly white, more striated, under the knife it gives a different sensation; compared with the uterine wall in which it is imbedded, its density and feel are different; its interior is less vascular; it behaves in short in many respects as a foreign body. It is true that in the pregnant uterus it follows to some extent the same laws of development and of involution as the muscular wall; but even in this circumstance, remarkable differences are occasionally observed, especially in the course of involution. The fibroid tumor being of a different organic structure from and less vascular than the uterine wall, does not always follow *pari passu* the retrogression of the proper muscular tissue of the organ. It sometimes remains larger. And sometimes, having less vitality, less power of resistance to injury, it passes into a state of low inflammation, or necrosis, which leads to its death, entailing either total disappearance by absorption, or the spread of inflammation to the proper structures of the uterus, and pyæmia. This is especially liable to happen when such a tumor being situated in the lower zone of the uterus is exposed to unusual contusion by the passage of the head during labor.

Looking at the histological characters of fibroid tumors we may imagine them to arise from accidentally aberrant growths of points of the original muscular structure of the uterus, that get surrounded by connective tissue or the regularly disposed muscular fibres, and thus become isolated in masses instead of being disposed in strata in the general structure.

The *seat* of fibroid tumors varies infinitely. Beginning in the substance of the muscular wall, they are all at first *interstitial*. As they increase in size they tend to bulge out either on the outer or inner surface of the uterus. In the first case they are called *sub-peritoneal*; in the second, *sub-mucous*. They are far more common in the body of the uterus than in the neck. This may be accounted for by the lesser proportion of muscular fibres in the neck.

In *shape* fibroids vary greatly. All are at first probably rounded, and whilst single and of moderate size they generally remain so. The irregular nodulated tumors are mostly conglomerates of many nuclei growing together at different rates. When the tumors are separate, they may by mutual compression assume various shapes.

In *density* they vary according to the stage of development from soft elastic to nearly cartilaginous. In *color* they vary from red to nearly pearly white.

Vascularity.—An important point in the constitution of fibroid tumors of the uterus is their *vascularity*. Cruveilhier observed that "it is in these bodies that the vascular system of fibrous bodies in general can best be studied. A considerable vascular network envelops them; this is entirely venous; it communicates largely with the veins of the uterus, which have acquired a calibre proportioned to that of the volume of the fibrous bodies, and to the development of the uterus. On the other hand this venous network receives all the veins which arise in the substance of these bodies. No uterine artery has appeared to me to penetrate the fibrous bodies whose circulation is reduced to its most simple expression; no lymphatic vessel has been demonstrated; no uterine

nerve has been traced into them. Hence the absolute insensibility of these bodies." But Virchow and Oldham have demonstrated large vessels in some tumors. They are more marked in the soft fleshy tumors; and vascularity diminishes as they become more fibrous.

When a tumor is sub-mucous or polypoid, its mucous investment exhibits evidence of greater vascularity than is proper to the healthy membrane. When a ligature is put on such a tumor the vessels being strangled become gorged, dark-red, and easily bleed. When seized by vulsellum, ecchymosis is produced from the rupture of small vessels; but this appearance is chiefly seen in the capsule of the tumor; deeper in the substance the tissue even under section shows little sign of bloodvessels being divided. There is, however, an injected specimen in St. George's Museum (xiv. 65) which shows the injection throughout the substance. It appears to be a true fibroid. In St. Bartholomew's is a specimen (32.12) showing "several tumors in the uterine wall. The vessels of the uterus have been injected, and the injection has entered the tumors." Examination of this specimen will, however, show that this is true chiefly of one large tumor near the inner surface of the uterus, and of looser texture; and that this tumor is less vascular than the uterine wall itself, whilst two smaller tumors, sub-peritoneal, are scarcely injected at all. In another specimen in the same museum (32.6), "a section of a uterus, with a firm fibrous tumor imbedded in the middle of its anterior wall, the vessels are minutely injected; but none of the injection appears in the morbid growth." This remains white in remarkable contrast with the vascular uterus.

This comparative absence of vessels, and the consequent low vitality, accounts for the impunity with which these tumors can be cut or lacerated during surgical operations. The venous character of the bloodvessels on their surface explains the free hemorrhages occurring whilst they retain their relations, and the speedy cessation of the bleeding when the tumors are removed.

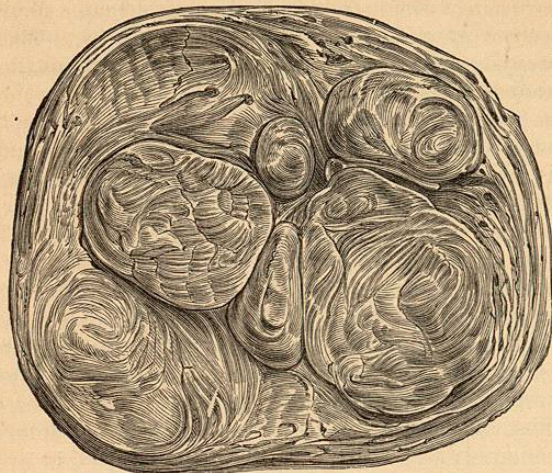
But in some cases there exists a largely-developed network of bloodvessels surrounding the tumor and in connection with it. Large sinuses are formed. This constitutes a serious danger in enucleation—1, of hemorrhage; 2, of septicæmia. The danger is all the greater that we cannot discover before operating the presence or absence of such vascular relations.

The *rate of growth* is hard to determine. It is not uniform. It is governed greatly by the ovarian stimulus. Probably the intra-mural or sub-peritoneal tumors grow more slowly than the sub-mucous. Many are comparatively small and inert for many years. That their usual rate of growth is slow may be inferred from their structure, which is but scantily supplied with bloodvessels; from the fact that fibroid tumors of considerable size are rare in young women; and in many it is a matter of observation. I have several women under observation in whom the existence of fibroids in the uterus was established many years ago. It is almost exclusively in women approaching or after the climacteric that very large tumors are seen.

Fibroid tumors are *single* or *multiple*, and some tumors apparently single are really *compound*, that is, conglomerates of single tumors. The

characteristic of a single tumor is that it consists of one bundle or mass; in the case of multiple tumors there are two or more masses situated apart from each other in distinct parts of the uterus; whilst conglomerate tumors consist of several masses packed together in close approximation.

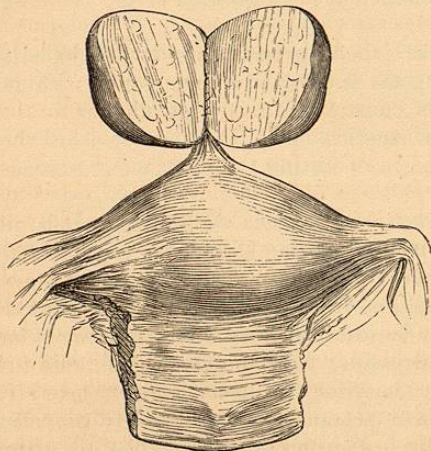
FIG. 150.



Conglomerate of Fibroid Tumors of Uterus (R. B.).
(Two-thirds nat. size, St. Thomas's Hospital.)

There is scarcely a limit to their *number*. In *size* they vary from a pin's head to that of a man's head, or even bigger.

FIG. 151.



Sub-peritoneal Fibroid Tumor of Uterus (R. B.).

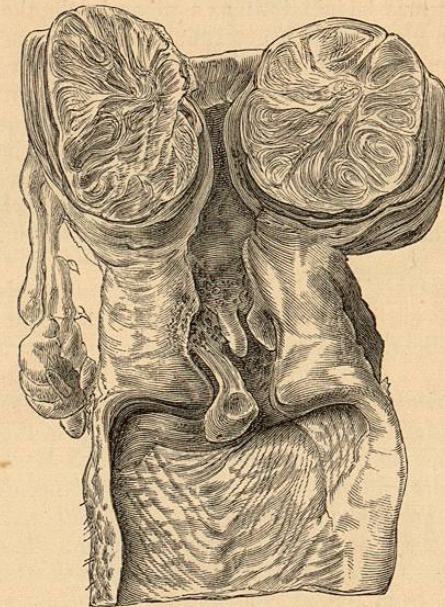
The tumor is only attached by a thin pedicle to the fundus uteri. (Half-size, London Hospital.)

Examples of the single and multiple tumors are seen in Figs. 150, 151, 152, 153, 154.

Fig. 150, taken from a specimen in St. Thomas's Museum, is a beautiful illustration of the conglomerate form. Each constituent mass appears surrounded in a separate matrix, whilst all are encapsuled in uterine tissue.

Change of Character or Conversion of Muscular into Fibroid Tumors.—Sevastopulo says all fibrous tumors are in origin muscular; that size is no evidence of age; that texture is determined by age. If old, side by side with primary muscular elements there will have been developed masses more or less considerable of cellular tissue, a remarkably tenacious amorphous substance; and these last parts will have gradually strangled the first elements.

FIG. 152.



Fibroid Tumor of the Uterus (R. B.).

Showing encapsulation in the proper uterine tissue, and attendant formation of cystic polypi in the cervix. The tumor starts from its capsule on section being made. (Two-thirds nat. size, St. Thomas's Hospital.)

Law of Growth of Muscular Tumors and Polypi.—The mode of growth of these tumors, by the development of unstriped muscular fibre from nuclei, is sufficiently shown by the descriptions and figures of Professor Vogel. But, whilst their histological formation seems to be similar to that of the true uterine tissue, they appear to enjoy a certain amount of independent developmental force. This is proved by their greater comparative rapidity of growth, and by the fact that they sometimes attain a very large size in the unimpregnated uterus—that is, during a time when the uterus itself scarcely enlarges at all, or only so much as may be attributed to the morbid stimulus imparted by the presence of the tumor. At the same time it is worthy of remark that fibrous tumors are

very rarely found before the age of puberty; when they exist, they remain passive until the period of activity of the generative system. After the child-bearing period, and the cessation of menstruation, fibrous tumors previously existing exhibit a marked tendency to recede. It is, I believe, a very rare occurrence to observe that any fresh tumors become developed after this epoch. The period of active growth of fibroid tumors and polypi is the period of functional activity of the generative organs. The periods of greatest activity of growth of these tumors are the periods when the generative organs exhibit the greatest activity. The periodical stimulus the uterus undergoes at the epochs of menstruation is shared by the tumors lodged within its walls. The rapid enlargement of the uterus during pregnancy is often attended by a commensurate growth of the tumors.

But, although it may be laid down as a general rule, that fibroid tumors do not continue to grow after the termination of the normal period of menstruation, it must be admitted that exceptions occur. I have even observed that the constitutional ferment which frequently attends this critical period of life seems to determine in the temporary exacerbation of any form of uterine disease existing at the time. The organic force which had hitherto been exerted in healthy physiological work, is now diverted into a morbid channel. In this way these tumors not infrequently acquire an enormous size, equalling or even exceeding that of the gravid uterus at term.

The processes by which fibroid tumors are spontaneously expelled from the uterus deserve careful study, since it is on the right intelligence of these, that the artificial methods of enucleation and extraction must find a rational basis.

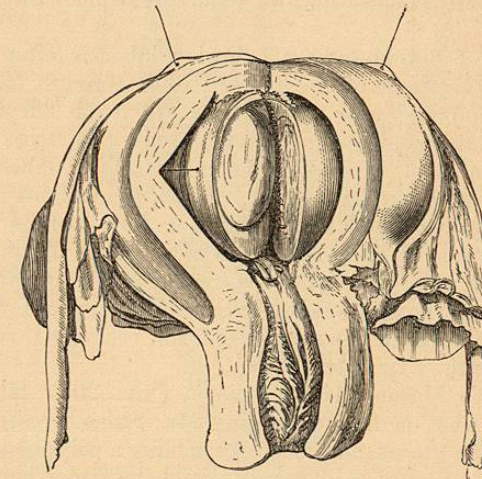
Both the sub-peritoneal and the sub-mucous tumors seem to be constantly pressing towards expulsion. The first step in this effort is seen in *bulging* or *projection* on the surface; the second is seen in *pedunculation*, when they are called *polypi*; the third is actual *detachment* from the uterus. The process of extrusion, a very important point in the clinical history of these growths, deserves attention. It may be likened generally to labor. The tumor is a parasitic growth which, drawing its means of nutrition from the uterine wall, and stimulating the structure in which it grows to increased development, may be said to produce in the uterus a state analogous to pregnancy. The uterus enlarges, its muscular element increases, and consequently its contractile property is called into play. The uterus thus developed tries to get rid of its parasites. Contractions of its muscular coat act upon the tumor and drive it towards the nearest surface, that is, the tumor is made to project at that part where the investing wall is thinnest. One of the conditions favoring this process is the difference in solidity between the tumor and the uterine wall. The texture of the tumor is usually more dense and compact, and is consequently less capable of contraction. It cannot follow or partake in the uniform contraction of the organ; as an unyielding body, preserving to a great extent its original dimensions, it must be driven towards one or other surface of the uterus as this diminishes in size. This liability to extrusion is the more especial characteristic of the dense fibroid encapsuled tumors. Those tumors whose texture more nearly resembles

that of the uterine wall, which are continuous with this wall, show less of this tendency towards extrusion.

The expulsive action of the uterus is strikingly manifested in those cases in which the organ inverts itself in the effort to cast out a tumor. Cases of this kind are described in the chapter on "Inversion." They extend the similitude to labor.

In St. George's Museum is a specimen (xiv. 21) showing a fibroid in course of spontaneous elimination. The tumor is nearly detached as though a ligature had been applied.

FIG. 153.



Uterus with two large Fibroid Tumors (R. B.).

One projects into the uterus, filling its cavity; it adheres to the inner surface of the uterus. The other tumor is at the back, towards the peritoneal surface, not seen in this view. (Half size, St. George's, xiv. 10.)

I believe, however, that the chief factor in extrusion is not always active uterine contraction. The ratio of growth is different. A dense body isolated from the uterine wall in which it is embedded, and continuing to grow more quickly than the uterine wall, must soon form a projection upon the other surface of the organ. Thus it grows out of the uterus, rather than is cast out.

Sometimes the tumor is actually detached, and cast out from the body. Many cases of this method of *spontaneous cure by expulsion* are known. There appear to be two ways in which it is carried out:—1. The thin layer of proper uterine tissue which forms the shell of the tumor may become inflamed and give way: the tumor itself softening, may be broken up in such a manner that the fragments, not perfectly separated from each other, but preserving a slight connection, may be driven down into the uterine cavity; or the tumor may come away entire, being, as it were, enucleated by the uterine action. This is especially likely to occur after labor. 2. The other way is by gradual pedunculation as explained. When the stalk is much thinned, the tumor breaks away by a slight force like an etiolated leaf or ripe fruit. 3. In some cases extrusion is pre-

ceded by inflammation and suppuration of the investing connective tissue; the natural bond of attachment of the tumor being thus broken down. Thus Dance relates a case in which, under this process, the tumor was so loosened as to float in its capsule, retained only by four slender pedicles.

Byford relates¹ some interesting examples of spontaneous expulsion, and cites others from Atlee and Parvin.

There is a feature in the process of extrusion which it is very necessary to remember. In many cases the part of the capsule nearest to the surface undergoes thinning to such a degree that the slightest force would complete perforation. The practical caution suggested is that when discussing operative enucleation, we should remember the possibility of such a condition.

The extrusion of fibroid tumors following labor is often attended by great danger. The tissue of the tumor, either through having suffered violence from compression or not, is very apt to be affected by a low necrotic form of inflammation which may give rise to metritis and pyæmia. And even when a tumor is expelled independently of labor, the process is not always carried out harmlessly. Thus, Cruveilhier relates a case of a young woman who had suffered during four months from uterine hemorrhage, followed by a discharge horribly fetid. At the end of this time she expelled some small masses, recognized to be fibrous tumors. The patient, whose health was undermined by hectic fever, and who presented all the marks of cancerous cachexia, recovered, contrary to all expectation, after the expulsion.

In St. George's Museum is a specimen (xiv. 20) "taken from the body of a lady who, on first consulting Mr. Stone, presented a tumor projecting from the uterus, and much resembling a polypus in the process of coming down. Severe pain came on, and the tumor began to project more, but never presented any neck. She sank exhausted by the discharge."

Sometimes the process simulates abortion so closely as to be mistaken for this event. This happened in the case of the wife of a medical friend. After profuse hemorrhages and expulsive pains, a substance of the size and shape of a small hen's egg was passed. Both she and her husband believed she had aborted. But on making a section of the mass, I found it was a fibroid tumor. It is needless to say that such a series of events occurring in a single woman would almost infallibly give rise to imputation against her chastity. The history enforces the rule to submit every substance passed from the uterus to careful examination.

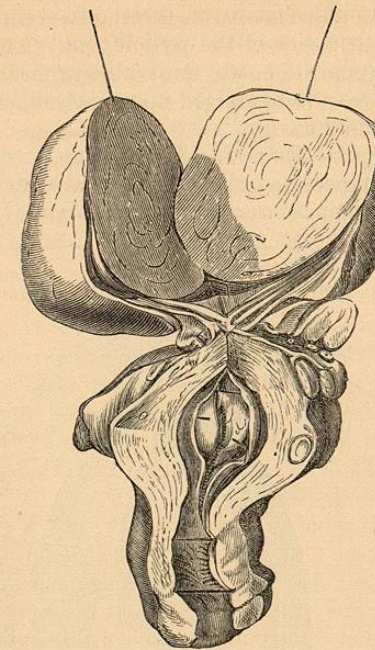
The sub-peritoneal tumors may also become pedunculated, being the exact counterparts of uterine polypi. In proportion as the peduncle elongates, becoming more remote from uterine influence, they become less and less dangerous. I have known them to acquire a peduncle so long that the tumor could be grasped in the hand through the abdominal wall, and be moved freely about, only restrained by its mooring to the body of the uterus. When in this condition, the subject may go through pregnancy and labor quite unaffected. And, like the uterine polypus, the sub-peritoneal tumor may be actually cast off. It then sinks down

¹ Gynæcological Transactions, 1876.

into the lower part of the abdomen, where it may cause peritonitis or mechanical distress; or, its presence may give rise to no inconvenience.

This tendency to casting-off by the peritoneal surface is well illustrated in Figs. 151, 154.

FIG. 154.



Fibrous Tumors of the Uterus (R. B.).

Some are in the walls of the uterus; others between the peritoneal coat and outer surface; one immediately beneath the mucous membrane projecting into the cavity of the uterus. (Half-size, St. George's, xiv. 9.)

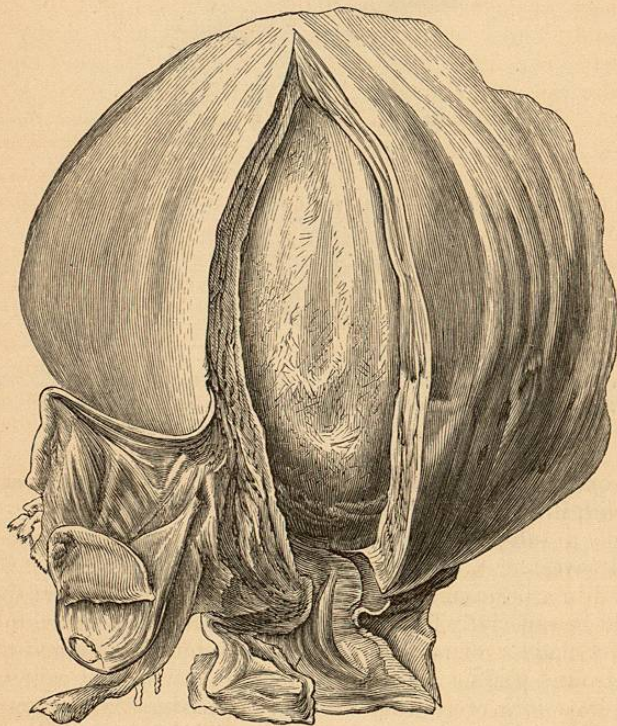
Professor Turner (*Edin. Med. Journ.*, 1861), who has discussed this subject, with illustrative examples, says:—

"Should a sub-peritoneal tumor be attacked by inflammation of its peritoneal investment, and contract adhesions to surrounding parts, it is thus placed in a position favorable to become separated from the uterus. This would be especially liable to occur if it became connected to a viscus, such as the bladder or rectum, which is constantly undergoing changes both in size and position. The alternate dilatations and contractions of these viscera would necessarily exercise a considerable traction upon the tumor, which would tend to produce elongation of the pedicle; and ultimately, should the case be sufficiently long in operation, complete detachment from the uterus. Even if the tumor were to attach itself to a fixed part, as the pubes, or other portion of the pelvic wall, and the woman subsequently become pregnant, the growing uterus, gradually rising into the abdomen, might exercise such an amount of traction upon the pedicle as to attenuate it even to complete separation. The entanglement of the

tumor between the coils of small intestine which so frequently hang down into the pelvic cavity, even although no distinct attachments took place between them, would, during the peristaltic movements of the gut, exercise a certain degree of dragging upon it, especially if at the same time its pedicle became twisted. In those cases in which the tumors attain great size, or great density, through calcareous degeneration, even without becoming connected to adjacent parts, their own weight might probably assist in producing attenuation of the pedicle; but in estimating this as a cause productive of separation, we must always bear in mind the constant and reciprocal pressure exercised upon each other by the walls and contents of the abdominal cavity."

Fleshy and Fibro-cystic Tumors.—The frequent occurrence of tumors, which, in many pathological and clinical points are very *distinct from the ordinary fibroids*, has not been sufficiently recognized. Yet, nothing is more important than this recognition. They cannot always be treated

FIG. 155.



Fibroid or Muscular Tumor of Uterus, causing great Enlargement of the Uterus and Uterine Cavity (R. B.). (Three-eighths nat. size, St. Thomas's, G. G. 29.)

like fibroids; and what is more important, they cannot always be distinguished before operating. These tumors are not so often multiple as the hard fibroid; they almost invariably affect the body of the uterus; they attain a large size; they are softer, looser, more like muscle, have often

interspaces filled with serum; they are more disposed to become "fibro-cystic." They are not so often encapsuled. They are much less disposed to calcareous degeneration. They are more liable to become œdematous. They are more vascular, and, therefore, more prone, under surgical interference or other violence, to become inflamed, to undergo necrosis, to give origin to septicæmia and peritonitis. They are less prone to become polypoid, or to be eliminated. They frequently give rise to profuse metrorrhagia. Fig. 155 from a specimen in St. Thomas's Museum, seems to be an example of this kind. It represents a "uterus with a large tumor developed in its anterior wall. The cavity of the uterus is much enlarged, being almost equal to the long diameter of the tumor, nearly seven inches. The posterior wall is $\frac{3}{4}$ in. thick. The subject, æt. 45, had long been subject to profuse uterine hemorrhage."

Red, fleshy, loose-textured, they contrast remarkably with the white dense, "sub-cartilaginous" appearance of the common hard "fibroid."

The form of uterine tumor which, next to the common fibroid, has attracted the most attention is the *fibro-cystic*. This is the form which has so often been mistaken for ovarian tumor, even inducing the surgeon to perform gastrotomy. They seem to be generally more fleshy, of looser texture than the common fibroid, more continuous with the proper uterine tissue, more vascular, and often grow to a very large size. Cysts sometimes form in the substance of fibroids through a localized inflammatory process, so that pus or serum collecting forms a cavity; or an effusion of blood into the substance may in like manner form a cavity. But in some examples there are many spaces or cysts of various sizes, whose origin cannot be accounted for in these ways.

Wilks's description seems to me the most generally accurate. "The tumor consists of the usual myomatous fibres, but instead of being homogeneous, its structure is opened by spaces which contain a watery fluid, perhaps mucoid, and perhaps blood-stained; the spaces themselves are simply fissures or gaps in the tissue, and have no proper lining."

There is one form of fibre, or myoma-cyst, which grows so rapidly that it may, says Keith, kill as quickly as an ovarian tumor. It is always fatal. It shows the clinical characters of malignancy. I have seen several, notably one operated upon by Dr. Chambers, and shown to the Obstetrical Society in 1878.

It is right to mention, although I do not quite concur in the view, the opinion of some distinguished French observers stated by Sevastopulo. This is that cystic-myoma is so rare, that many cases taken to be such are really examples of cysts adherent to the external surface of a myoma. Verneuil (1854) explained this hypothesis by showing that there often existed around fibrous bodies, in the soft zone which separates them more or less completely from the uterine tissue, true serous pouches; and that these pouches, caught and compressed between fibrous tumors, look like cysts that have formed in their substance.

There is a form of tumor, distinguished by the name of "*recurrent fibroid*," which affects the uterus. It presents, especially in this character of recurrence, affinities with malignant disease. Probably some of the cases reported were of the nature of "sarcoma."

The following history illustrates some of the features of this growth: