

With the exception of Case 78 and Case 89, the malignancy was well advanced and in several cases it was a question if the result would be worth the effort. With the exception of Case 19, sarcomatous degeneration, in which the operation was probably of no use whatever, life was prolonged and the hemorrhage and offensive discharge were eliminated, which made the tragedy somewhat easier for the patient and the family.

Of the seventy-eight patients alive and traced, we have the following results: One patient, while cured of the pelvic lesions had an infection of the incision with a resulting hernia. One patient after a plastic operation, a myomectomy, an appendectomy and a shortening of the round ligaments, continued to have metrorrhagia, which was controlled by Roentgen-ray treatment, and is not considered a surgical cure. The combination of treatments was ideal. There was no excuse for a hysterectomy, which would have controlled the bleeding, as the tumors were small and the patient comparatively young. On the other hand, the Roentgen rays would not have cured the lacerations, the displacement, or the chronic appendicitis. One patient is well except for so-called chronic rheumatism. One patient, a marked neurasthenic, has a cystitis and claims she is no better than when bedridden with a pelvis and lower abdomen filled with a fibromyoma and a bilateral femoral phlebitis from pressure. The remaining seventy-four are well and are enjoying good health. To these should be added, as cured of the pelvic trouble, the one who has rheumatism, making a total of seventy-five, or 96 per cent., cured. From the seventy-five, three who are now in good health, should be held under advisement, as they had a malignancy of the uterus associated with the fibromyomas.

In Case 68 the glycosuria disappeared a few weeks after operation.

The one thing that is worthy of especial emphasis in this series is the percentage of malignancies and with two exceptions they were well advanced cases. The only way we can hope to improve our results in fibromyomas complicated by a malignancy is to educate the profession and the public to the danger of these tumors. Fibromyomas are not innocent tumors which are cured by the menopause. On the contrary, they are progressive, insidious neoplasms, whose danger increases with advancing age of the patient; 87.5 per cent. of the malignancies and the degenerations in the tumors in this series were in women over 40 years old. Why any man, and especially a surgeon, will tell a woman past the age of 40 who has a fibromyoma with metrorrhagia not to worry, that she will be cured by the menopause, is beyond my comprehension. This may explain why some men have so few malignancies associated with their cases of fibromyomas. He who gives such advice is responsible if an incurable malignancy develops while the patient is serenely waiting a menopausal cure.

I trust there is no surgeon who will deny that there is an intimate relation between fibromyomas and carcinoma of the corpus. Any series of cases carefully studied will show that the vast majority of malignancies are in the corpus; while the majority of malignancies of the uterus which do not contain fibromyomas are in the cervix.

While time will not permit a discussion of other methods of treatment, I cannot refrain from asking my radiotherapy friends, who talk about the control of bleeding as being a cure, what they would hope to

accomplish in the way of relieving these patients of their abdominal and pelvic symptoms by the Roentgen-ray treatment, when there were only nineteen patients who had neither a malignancy of the pelvic organs, a degeneration of the tumor or an associate abdominal or pelvic lesion. While I will concede there is a certain small percentage of cases, as outlined by the writer¹² in a paper before the state medical society in 1914 that should receive roentgenotherapy, I do maintain that with a few exceptions all fibromyomata uteri which produce symptoms should receive early surgical treatment.

OPERATIVE TREATMENT OF FIBROMYOMATOUS UTERINE TUMORS*

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General interest in the question of the treatment of myoma of the uterus has been rekindled by the enthusiastic claims of advocates of the Roentgen ray and radium treatments. Surgery has fought and won against the old ideas of the harmlessness of the majority of these uterine growths, showing that in many cases they take on activity after a period of quiescence, that they undergo malignant degeneration, that they may produce harmful pelvic and abdominal lesions, that they predispose to carcinoma of the uterus, that they produce a variety of harmful pressure effects and in short that any given series of women who are the subjects of these growths will in time show a large percentage who suffer from one or more of a great variety of complications that are more or less disabling or dangerous to life.

We have fought to a finish the idea that if a woman could be tided along to the menopause, it could be expected that the fibroids would then shrink and cease from troubling.

We have seen the Roentgen ray advocated and have noted some success in its employment for the control of the associated metrorrhagia of fibroid tumors of the uterus. We have had authenticated cases, not only of symptomatic improvement, but also of material diminution in size of tumors so treated. We all hoped for a time that an absolutely safe and specific remedial agency was in our possession. Now sufficient time has elapsed for us to conclude that many failures are to be expected with the Roentgen-ray treatment, that a certain amount of positive harm can come from it and that a vast amount of harm can result in this form of delay of radical treatment in cases where that alone offers any prospect of cure.

Now we are confronted by radium, for which more extended claims are made, and we are asked to believe that it will not only control the symptoms, but also cause a disappearance of the growth in many instances. It is therefore well to review our results with the operative treatment, in order that we may see whether the profession is justified in running after this new prophet, which to our mind is about to prove itself as false as those which have preceded.

It is obvious that a considerable time must elapse before the radium treatment can be stamped with the final verdict of history. A patient treated by radium,

12. Tracy, Stephen E.: Treatment of Fibromyomata Uteri; Whether Surgery or Radiotherapy, *Pennsylvania Med. Jour.*, 1915, xviii, 353.

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even though symptomatically improved, still has her fibroid, for I do not take seriously the claim that such tumors disappear under the influence of the radiations. I have operated on too many patients that have failed to be cured by radium to allow me to believe in such marvelous and specific efficacy. I am willing to grant that well-attested cases exist in which shrinkage of the growth has followed this form of treatment. I admit that a certain type of metrorrhagia can be controlled. I am not ignorant of the fact that more or less obscure relations exist between ovarian function and pelvic congestion, and therefore that in this way by influencing the blood supply of the uterus and its contained tumors it may be possible to check hemorrhage, arrest growth, and perhaps in a few favorable cases actually to reduce the size of this neoplasm.

I am willing to grant even that there is a certain direct effect of the rays on the tumors themselves, though unfortunately this is not a specific effect and therefore associated with similar changes in other tissues in which they are undesirable. In short, it cannot be denied, if anyone had the disposition to do so, that the sum total of the effects of both the Roentgen ray and radium on tumors of this group at times result in changes that are beneficial to certain patients. It is quite a difficult thing to say that these facts point to radiation as the treatment of choice or even to conclude that it is safe to try it first, before recommending the operative method. The majority of cases of appendicitis will recover from the attack under proper medical treatment, but that has not prevented the profession from taking the firm and uncompromising stand that appendicitis is a surgical disease, in which temporizing is to be condemned as unsafe. The Roentgen ray and radium have a pronounced influence over malignant growths, and if applied early enough doubtless will dissipate certain cases of carcinoma and sarcoma, but we nevertheless consider it malpractice to employ these measures in any case amenable to excision. The only difference in the failure of Roentgen rays and radium in the case of malignant disease and their failure in dealing with fibroids is in the fact that in the former case the inevitable fatalities at once drummed the treatment out of court, while in the latter the relatively benign character of the condition and the slow development of its morbidity and mortality from complications makes actual proof of the insufficiency of the treatment a matter of time and comparative statistics. Yet I maintain that it is not necessary to wait for these slower processes if we use only what knowledge has already accumulated.

In my opinion we are now justified in asserting that both the Roentgen ray and radium have failed to demonstrate specific power over fibroid growths and therefore must be placed in the category of symptomatic forms of treatment which accomplish good results in occasional cases, like the use of corrosive plaster in epithelioma, but when used as a measure of general applicability, will do great harm in causing delay of the radical treatment and exciting false hopes of nonoperative cure that may deprive many of proper treatment. In all cases the treatment is expensive and often tedious. It does not safeguard against future trouble. There is no reason to believe that it can abolish the well-attested toxic effect of certain myomas on the heart and possibly other organs. Bearing in mind also the curious relationship between various radiations and malignant disease, one finds it is impossible to dismiss subsequent hazard of carcinoma or

sarcoma in the pelvic tissues. Time only will settle this point and in any event the abnormal pelvic organs can be expected to show as time goes on a fair percentage of malignant conditions, whether or not they are the result of ray treatment or entirely independent of it. We can conclude that operation, by which the patient is rid completely and finally of the growth or growths and associated pathology, remains the ideal treatment. It is not time for the profession to take a stand and condemn the excessive zeal of those who would displace operation or relegate it to a last resort, and instead put radium in its proper place as a symptomatic treatment to be employed only when operation is contraindicated?

The great argument in the use of the Roentgen ray or radium is the absence of immediate mortality. But the question of mortality must be faced in any operation. There would be no operation of any kind if a chance of mortality were the predominant factor. If radium cannot fill the place of operations, and we have seen that this is the case, it is proper to assess the dangers of operation in order to determine whether they are prohibitive of ideal treatment.

In a previous series of 250 operations¹ my mortality figures amounted to 9.13 per cent., although the last operations proceeded with but three deaths (2.3 per cent.). In this series of 750 operative cases, covering a period of eleven years (from 1905 to 1915, inclusive), there were only thirteen deaths, reducing the mortality to 1.73 per cent.; and it gives me great satisfaction to be able to state that the last 100 of these operations passed off without a single fatality.

The results of radium would need to be marvelous, indeed, if it is to vie as a symptomatic treatment with an ideal curative treatment that shows so small a mortality.

Furthermore, it should be noted that a large number of these cases were such as could scarcely be undertaken with any hope of success by even the extreme radium enthusiast. Many possessed huge fibroids which had contracted extensive adhesions. Some were parasitic on the omentum or intestines. Numerous degenerative changes were present. Of the last 513 cases, 111 showed hyaline degeneration. In twenty-six it was either hemorrhagic, necrotic or calcareous or a combination of these. Carcinoma was associated in eight cases. Tuberculosis was noted in one case. Pyosalpinx was found fourteen times. In two cases tuberculous salpingitis was present. Ovarian cysts were found in forty-eight cases and intraligamentary cysts in seven. Of the ovarian cysts eight were dermoids. Two showed intracystic papillomas and in two early malignant changes were found. Sarcoma of the ovary was observed once. It will be noted that the percentage of associated malignant disease alone was larger than the percentage of mortality. What should we say of any form of treatment that tends toward delay?

Note, moreover, that these malignant conditions were actually present at the time of operation. In view of the admitted tendency for the development of malignant changes in such conditions with any treatment other than the operative, a further toll from cancer or sarcoma will be exacted at a later date. This is true entirely irrespective of the question as to whether the ray treatment actually predisposes toward malignant changes though several cases are already on record in which this seemed likely. Since all will admit

1. Deaver, John B.: *Am. Jour. Obst.*, 1905, lii, 858.

that no one can diagnosticate these forms of malignancy early enough to cure more than a small percentage, is it not true that the effect of symptomatic treatment will be to raise the mortality from cancer and sarcoma, a step backward toward the dark ages?

A considerable number of patients were operated on at the same time for other conditions, such as hernia, lacerations of the perineum, hemorrhoids, cholelithiasis, cholecystitis and appendicitis. The appendix was removed 513 times. About forty-eight were approximately normal, four showed acute suppuration. The remainder presented chronic interstitial or obliterative processes. The net gain in the correction of these conditions is an additional argument for operation.

The postoperative history was uneventful in the great majority of cases. A number of cases of pneumonia, pleurisy and phlebitis, ten in all, soon yielded to treatment and the recuperative powers were followed by uneventful recovery. In fifteen instances the wound broke down, twice as a result of violent coughing. Ureterovaginal fistula and vesicovaginal fistula each occurred twice after panhysterectomy, requiring secondary operations. One patient developed both fecal and vesicovaginal fistula and two had fecal fistulas alone. One patient had postoperative parotitis. One patient, on the third day, began to vomit copiously, with signs of acute dilatation of the stomach, but was relieved by the stomach tube. Convalescence was prolonged in one case by cholecystitis, in another by a profuse purulent discharge and in a third by painful defecation. As a rule recovery was established in ten days to two weeks and the patients dismissed in good condition to continue their convalescence.

Operative deaths are in the majority of instances due to infection. In this series seven died of peritonitis. Paresis of the bowel, probably of toxic origin, was responsible for one death. Pneumonia, myocarditis, asthenia, cardiac failure and shock were given as the causes of the fatal termination in the remaining five cases.

Against this list of mortality and complications we cannot allow the advocates of radium to urge their procedure as possessing no mortality. Surgery is the only cure of malignant disease, and as mentioned above, the malignant degenerations found in this series actually exceeded the mortality percentage. Therefore any treatment other than operation should be credited with this mortality since it deprives the patient of his only hope of cure. Moreover, it is certain that these damaged organs if left in situ would inevitably in a large percentage of cases become the seat of malignant disease. The prevention of such changes by removal actually places a balance to the credit of operation, while it further condemns so-called conservative treatment.

Morbidity also will be a much more marked feature of any palliative treatment than it is of radical measures which remove the root of the troubles. Shall we not acknowledge frankly, therefore, that radium has failed as the treatment of choice for fibroids and associated conditions and return to the improvement of our most effective arm?

The operation of choice is supravaginal amputation of the uterus, because it is simpler and less liable to infection and other complications than removal of the entire uterus. An exception should be made when the cervix is distinctly abnormal by reason of lacerations,

ulceration or inflammatory conditions. In this case the whole organ should be removed. Ovaries should always be left unless diseased. In younger women one ovary, or a portion of it, should be left, unless such marked inflammation or neoplastic changes are present as to make it dangerous to do so. In women beyond 40 more latitude in removal of the ovaries is justifiable, but they should never be needlessly sacrificed.

It is my practice to fix the round ligaments and the stump of the upper portion of the broad ligaments into the cut surface of the cervix, or, in the case of panhysterectomy, to the vagina on each side. This aids in restoring the support of the pelvic floor and distributes more equally the intra-abdominal pressure on the pelvic structures, causing less liability to bladder and rectal symptoms.

Myomectomy I rarely advise. Only occasionally does one see a case to which it is adapted. Myomas are usually multiple and when single are apt to be so large at the time of operation as to render hopeless any attempt to save a functionally sound uterus. Occasionally, in the case of young women, it is justifiable, but it is well to remember that it may be a more complicated and dangerous operation than removal of the uterus.

I must mention the service that will at times be rendered by the operation of hysterotomy. Occasionally it is impossible to distinguish between a pregnant uterus and one symmetrically enlarged by a myoma. In such cases an incision will promptly clear the diagnosis and prevent the error of either removing a normal pregnant uterus or leaving behind one which is merely the seat of a deceptive tumor. It is at times possible also by this method to expose a small bleeding mucous polyp or submucous myoma and save the uterus. Unsuspected malignant disease of the interior of the uterus also may be detected in this way and indicate a more radical procedure than would otherwise be carried out.

In conclusion let me say that the operation for the case of fibroid tumor of the uterus has been to me one of the most satisfactory in all surgery. If performed on operable patients at a timely season the mortality is exceedingly low, the results almost uniformly good. When cure is indicated symptomatic treatment has no place.

In the last 750 operations there were sixty-eight supravaginal amputations of the uterus without removal of the tubes and ovaries, 325 supravaginal amputations of the uterus with removal of both tubes and ovaries, and 145 supravaginal amputations with partial removal of the tubes and ovaries. There were ninety-nine complete abdominal hysterectomies, twenty vaginal hysterectomies, and ninety-three abdominal myomectomies.

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Sour Grass Soup and Ptomain Poisoning.—A recent investigation of several cases of illness occurring in the East Side of New York and thought to be due to ptomain poisoning were found to be due to sour grass soup. This soup is prepared from "qchav" or "szchav" leaves, commonly known as sour grass, a species of sorrel. It is rich in oxalic acid salts, an analysis in the chemical laboratory of the department of health showing as much as 2 grains of oxalic acid in an ounce of leaves, and double that in the stems. This investigation shows that sour grass soup is a popular dish on the East Side. Chemical analysis of the soup has shown about 10 grains of oxalic acid to a pint of soup.