

2. The general systemic effect is, under these conditions, less distressing than formerly, after irradiation with the soft rays.

3. The immediate effect on the blood and blood-forming organs is marked, but restoration begins as a rule within a week after the irradiation in noncachectic cases. Hemorrhages from internal malignant growths ceased; this result alone is of immediate benefit to the patient.

4. The immediate effect of therapeutic doses on the deeper organs in irradiated areas is that of irritation, and probably corresponds to a surface erythema. Glandular tissues may be destroyed.

5. In noncachectic patients, a surface erythema from these ultrahard rays was safely produced when necessary. It must be attained whenever a malignant mass near the surface is to be treated through one area of entry.

6. The iontoquantimeter permits the administration of the desired and known depth dose, and is the basis of scientific deep roentgenotherapy.

11½ East Eighth Street.

THE SIMULTANEOUS OCCURRENCE OF TUMORS IN THE THYROID, UTERUS AND BREAST

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DETROIT

Every surgeon who operates upon goiters must have noticed the frequent occurrence of tumors in the thyroid, uterus and breast. Apparently there has been very little written on the subject, however, for we could find only two references in the literature. Falta's¹ "Ductless Glandular Diseases" contains this note:

There seems to exist a certain relationship between goiter and myomata of the uterus. At least it has been observed that in strumous women who also suffer from myomata the struma also decreases in size with the retrogression of the myoma at the menopause.

Falta's note is quoted from an article by Ullman² of Vienna. This article reads:

It has been known for a long time that a relationship exists between the uterus and the normal thyroid gland. The nature of this relationship is, of course, enshrouded in darkness; we only know that in a not infrequent number of women a transitory enlargement of the thyroid gland takes place at the time of menstruation. After the cessation of menstruation, the thyroid returns to normal. . . . In many women during pregnancy an enlargement of the thyroid takes place, which still exists after childbirth. . . . A third fact which concerns the question of the relationship between uterus and thyroid is that as to whether strumas develop more frequently in females than in males. . . . I wish to emphasize that in women affected with myomas I was able to show a distinct enlargement of the thyroid gland, an enlargement that could be spoken of partly as struma parenchymatosa, partly as the result of degeneration, as colloid struma. . . . I was then able to determine that these strumas following complete myomectomy became decidedly smaller; in many cases they disappeared entirely.

In looking over our own records, we find that of the last 100 female patients who consulted us for goiter, eighteen had fibroids;³ four of them also had breast tumors; and of the last 100 patients who consulted us for fibroids, thirty-five had goiter; six had breast tumors. Thus, of the total 200 patients, fifty-three, or 26.5 per cent., had tumors of both thyroid and uterus. Ten of these 200 patients required operations on both the thyroid and the uterus. This large number of multiple lesions is obviously much more than a coincidence; yet, as noted above, very little mention of it has been made.

The matter therefore seemed important enough to call attention to again. Three points suggest themselves:

(a) It is possible, as suggested by Ullman, that certain goiters might be reduced in size or even cured by removal of a fibroid.

(b) Thyroid extract and iodine might be beneficial in preventing the development of fibroids as well as of goiters.

(c) These relationships might have some bearing on the etiology of these tumor groups.

In the eighteen goiters found in the examination of 100 fibroids, fourteen were adenomas of the thyroid, three were colloid goiters, and one was an exophthalmic goiter. Of the four breast tumors which accompanied goiters, an adenofibroma with cyst-areas accompanied an adenomatous goiter; an adenoma of the left breast accompanied an adenomatous goiter; an intracanalicular adenofibroma in the right breast, and a similar tumor with hyaline changes in the left breast accompanied a colloid adenomatous goiter. Another goiter which is not tabulated showed virginal hypertrophy of the right breast. Of the six breast tumors which accompanied fibroids, three were interstitial mastitis; one was a fibro-adenoma; one was a carcinoma of the left breast and fibro-adenoma of the right breast, and one was a cystadenoma.

Of the fifty-three patients with the combination of goiter and fibroid, the youngest was 25 years old, this patient being the only one below 30. Fully two thirds were over 35. We may say, therefore, that the incidence mounts with age, the simultaneous occurrence of goiter and fibroid being most prevalent in the latter half of the third decade and during the fourth decade. Of the 100 goiter patients, twenty-one were under the age of 25. There were no fibroids among these patients, so that the percentage of eighteen fibroids is borne by seventy-nine patients more than 25 years of age. In other words, the fibroid-goiter combination shows its entire incidence after 25 years of age, and increases rapidly after 35 years.

The simultaneous occurrence of goiters, fibroids and breast tumors is more frequent than is usually supposed. The thyroid, breast and uterus have different anatomic structures and are different in their embryologic origins, but we note that the function of the thyroid is closely related to, and influences the function of the sexual organs. The interrelationship of uterus and breast is obvious. Since these organs are related to each other only by function, it must be that physiologic interdependence is a factor in the tumor formation.

When sexual function ceases or begins to wane, usually the time arises for the growth of all these

1. Falta, Wilhelm: *Ductless Glandular Diseases*, Philadelphia, P. Blakiston's Son & Co., 1916, p. 156.

2. Ullman, Emmerich: *Ueber Uterusmyom und Kropf*, Wien. klin. Wchnschr. 23: 585, 1910.

3. Though some patients had large uteri, no diagnosis of fibroid was made unless there was a certainty of this condition.

tumors. The symptoms of fibroids usually become more alarming toward the end of the reproductive period. The adenomatous goiter, in the great majority of cases, does not give much discomfort until the menopause. Then pressure and toxic symptoms arise. Small tumors in the breast have often existed from the age of 20 to the age of 40 without giving any symptoms, or without having been noticed at all; still, their long-standing existence usually is clear when their presence becomes obvious through growth or discomfort. Because of the aforementioned functional (physiologic) relationship which exists between thyroid, uterus and breast, we may be able to understand why growth or irritation in one of these organs may induce growth or irritation in another. For instance, when a small fibroid which has existed innocently for many years suddenly begins to grow, it may induce growth or irritation in the thyroid or breast (and vice versa).

CONCLUSIONS

1. In a series of 200 cases (100 fibroids and 100 goiters), fifty-three patients, or 26.5 per cent., had both goiter and fibroid. Five per cent. had breast tumors.

2. The age of incidence of these combinations was greatest after 35.

3. Since these three organs are not related anatomically or embryologically, the simultaneous occurrence of tumors in the thyroid, uterus and breast may be explained by their physiologic interrelationship.

4. The prophylactic treatment now advocated, of giving iodids for goiter, may likewise prove beneficial in the prevention of fibroid.

5. Perhaps certain goiters can be reduced in size or even cured by the removal of a fibroid (as suggested by Ullman).

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Clinical Notes, Suggestions, and New Instruments

REPORT OF A CASE OF FULL TERM ABDOMINAL PREGNANCY

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A colored woman, aged 33, married, was admitted to Grady Hospital, Dec. 3, 1920, complaining of weakness and pain in the right lower abdomen. She had always been in good health and gave no history of serious illness, operations or venereal disease. Her menses had been regular. She had had three full term, normal pregnancies and labors with normal puerperia, the last one occurring in 1917. There had been no miscarriages.

The menstrual periods were regular and normal during the summer and fall of 1920, and the October period began at the regular time but was more profuse than usual, and lasted two weeks. From this time on, the periods remained absent. During the latter part of October and during part of November, she was nursing a sick relative and thought that the strain of lifting the patient caused pain in the right lower abdomen. She gave no history of a sudden sharp pain or fainting attack. The pain in the right lower abdomen continued throughout November, and was associated with considerable weakness.

She came to the hospital early in December, 1920, complaining of pain in the right lower abdomen, and weakness. She was repeatedly questioned and examined during her stay

of one week. Examination disclosed a mass in the middle lower abdomen of the size, shape and consistency of a normal four months' pregnancy; the lower abdomen seemed to be more than normally tender, especially in the right lower quadrant. The skin showed a yellowish pallor. Vaginal examination revealed a moderately firm cervix in normal position and apparently continuous with the mass described, although the tenderness of the abdomen prevented satisfactory palpation. The fornices were soft, and no mass was palpable on either side, although there was more tenderness on the right. Had the patient been examined under anesthesia with, perhaps, a puncture and aspiration of the cul-de-sac to endeavor to demonstrate the presence of free blood in the pelvis, the true condition might have been recognized; but as there seemed to be no apparent cause for her complaint, she was discharged and not seen again until readmission to the hospital, June 3, 1921.

The pregnancy had apparently progressed normally except for more pain than she had ever experienced with her previous gestations. On examination, the skin showed a yellowish, anemic tint with some pallor of the mucous membranes. The heart and lungs were normal. The blood pressure registered 135 systolic and 90 diastolic. The size and contour of the abdomen were quite typical of a full term intra-uterine pregnancy, except perhaps for a somewhat more abrupt rise above the pubes than normal. A moderate degree of hydramnios was suspected on account of a fairly definite fluid wave and the shiny appearance of the skin. There was more than normal tenderness to palpation. The fetal parts were distinctly palpable, but not to a greater degree than in many thin walled multiparous uteri. The position of the fetus was readily recognized as left sacro-anterior, and the fetal heart sounds were distinctly heard to the left and above the umbilicus. The inlet measurements were normal. Rectal examination revealed no dilatation of the cervix and, although the patient complained of irregular pains, no definite contractions were noted. However, as labor was likely to begin at any time, the patient was kept in the ward under observation. After several days, an attempt was made to induce labor with castor oil and quinin, but without success.

June 8, the patient ceased to feel movements, and repeated examinations failed to reveal fetal heart sounds or movements. It was deemed best not to interfere but to let labor come on naturally, if possible, and the patient was permitted to go home for a few days.

She returned to the hospital, June 23, and stated that bleeding had commenced, June 21, and still continued. She had also been feeling worse during the last week on account of increased backache, feeling of weight in the pelvis, and a foul taste in the mouth. During the next two days, an afternoon rise of temperature to 100 F. was noted. Examination revealed the same physical findings as before, but the cervix seemed slightly more open, although only moderately softened.

It was decided to induce labor on account of the delay in expelling the dead fetus and the evidence of beginning infection, as there seemed to be no other cause for the rise in temperature. June 25, 3 p. m., two large rubber catheters were passed through the cervix. It was noted that the catheters seemed to encounter a firm obstruction after passing in about 10 cm., but this was thought to be, possibly, the placental implantation. On the 26th, at 8:30 p. m., the catheters were removed, no definite pains having resulted. However, the cervix was now dilated sufficiently to admit one finger. On the 27th, at noon, a No. 4 Voorhees bag was introduced through the cervix. The canal seemed to lead off to the left. The membranes could not be reached. On the 28th, at 5 p. m., the bag was removed, as no definite pains had resulted. Examination after removal of the bag revealed that the cervix was dilated about three fingers' breadth and, on further exploration, was found to lead into a cavity about 10 cm. in depth, manifestly a nonpregnant uterus.

The probable diagnosis, therefore, was an extra-uterine pregnancy which must have ruptured at an early stage and retained sufficient attachment to develop to full term as an abdominal pregnancy. It was also possible, but less likely,