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AN ACUTE MYXŒDEMATOUS CONDITION, WITH
TACHYCARDIA, GLYCOSURIA, MELÆNA, MANIA,
AND DEATH.*

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Acute myxœdema may occur as a transient condition in goitre. In 1892, I reported the case of a young man, aged twenty-three, who had a goitre of moderate size, with which was associated for a period of five or six months a myxœdematous condition of the hands and face, which disappeared completely.

In 1893, I was consulted by Mrs. B., aged thirty-seven, who had exophthalmic goitre, and a swollen, myxœdematous state of the subcutaneous tissues of the legs below the knees. They did not pit; it was a brawny induration which had persisted for several months; there was no change in color. There are a good many observations in the literature of the co-existence of the two disorders, or of the development in myxœdema (sometimes following the use of thyroid gland extract) of the phenomena of Graves' disease, or vice versa. A brief summary of the recorded cases is found in Möbius' monograph in "Nothnagel's Specielle Pathologie und Therapie" (Vol. XXII, 1896).

The cases of Sollier¹ illustrate the usual sequence. A woman, aged thirty-one, seen first in March, 1891, had had

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¹Sollier: *Revue de Méd.*, 1891.

exophthalmos in January, 1890, without enlargement of the thyroid, but with much nervousness, pallor, tachycardia, and well-marked tremor. There was in addition a very pronounced myxœdematous swelling of the face, neck, and extremities, and supraclavicular fossæ. The thyroid gland was not enlarged, but seemed rather atrophied. In the second case, a woman, aged thirty-nine, who had had a good deal of mental worry and trouble, presented all the characteristic features of Graves' disease without goitre. The lobes of the gland could not be felt. The earliest symptoms were associated with rheumatic pains in the limbs and a transient œdema. There was much disability, and she was treated for chronic rheumatism. When admitted she presented the characteristic features of advanced myxœdema with enormous infiltration of the subcutaneous tissues. There was slight exophthalmos; pulse 110 to 120, and well-marked tremor.

I can find no description of a group of symptoms similar to that presented in the following record.

February 25, 1897. I saw to-day with Dr. Ellis, of Elkton, Mr. P., aged 31, an assistant freight manager on a western railroad.

Family history. There was no special tendency to nervous troubles. His father had been a dissipated man; his mother was living and well.

Personal history. He had enjoyed excellent health; had been very vigorous and strong. He was a man of exemplary habits; had not had syphilis, and had not been addicted to drink. He had been a very hard worker, and had been promoted rapidly to a very responsible position. He was married in 1892. He was a man of medium height, about five feet, eight, and his usual weight was 145 pounds. A photograph taken three or four years ago showed rather a thin-faced man.

Present illness. In October, 1896, his wife noticed that he was increasing rapidly in size, and before Christmas he had to get a completely new outfit of underclothes and outer garments. His weight, which as stated, was about 145 pounds, increased by January 1, 1897, to 182 pounds. He got very large in the abdomen, so much so that he suspected that he had dropsy, and in December remarkable scars appeared in the skin of the flanks. He felt pretty well and was able to attend to his work. His color was good, but every one remarked on the extraordinary increase in his size, and a personal friend asked him if he had been drinking, as he looked so bloated. He was at this time overworked, and his wife states that he became rather sleepless and irritable, and his usual disposition became changed. On and off, between

October and January, he had attacks of diarrhoea; the stools were sometimes dark colored, and he thinks there was blood in them. The movements were sometimes large and came on very abruptly, and once he had an almost involuntary evacuation. It is not altogether clear, however, that he actually at this time did pass blood. After the New Year he did not feel so well, complained of a good deal of prostration and weakness, and once he fell on the sidewalk from weakness. He kept at work, however, until February 5, when his friends insisted that he should go away for a change. He evidently could not at this time have felt very seriously ill, for he had a great deal of heavy business on hand, and worked up to three hours before leaving. He went to Florida, and while there became very much worse. He grew restless, wandered about a great deal, was sleepless, and got very "queer in his head." His wife said that he had certain delusions, said very funny things, and had an idea that people were troubling him. He said once that he would be all right "if he could get rid of these people." His skin had been very dry and harsh, and sometime in January, a red rash appeared on the upper part of the chest. In Florida he became so much worse, that he decided to return at once to Elkton, where his people lived. He arrived there on the 13th, and Dr. Ellis, who had known him from boyhood, states that he never was more shocked in his life than to see his condition. He was bloated; the face was almost purple, and he looked like a man who had been on a debauch for a month. He thought too that his eyes were a little prominent.

When I saw him on February 25, the patient was in bed, where he had remained since the 13th. He had improved in some ways, and Dr. Ellis thought his face had become very much less swollen. His mind had become perfectly clear, and he had no delusions. The features looked very heavy and bloated and congested; the lips were red, the cheeks flushed; the eyes looked a little prominent, the conjunctivæ were injected and watery. The eyelids covered the whites of the eyes; there was no Graefe's sign, no retraction of the lids, and the power of convergence was unimpaired. The tongue was slightly furred; the gums were natural looking. The neck looked thick and brawny; the supraclavicular pads were large and the lower part of the sternal notch was obliterated. Pulsation was noted in the carotids. The neck was flat in front, no prominence in the region of the thyroid, and the gland could not be felt.

On inspection of the thorax the skin looked congested and reddened in the upper part of the sternum, and there were the brownish scars of a rash in the upper part of the front of the chest.

The abdomen was full and large, and the skin presented in crescentic lines on either side in the flanks and in the iliac regions the most extraordinary atrophic lineæ, six on either side, the largest one extending in a curved line from near the tip of the tenth costal cartilage to within an inch of the spine of the pubes. It was fully three-fourths of an inch in breadth at its widest part. All were curved, and presented a purplish red color. The thighs and legs were large, but symmetrical. The skin looked everywhere dry, particularly on the backs of the hands and on the feet, and in the former situation looked infiltrated. While he was bloated and puffy, the general appearance was not at all that of a case of myxœdema.

There was not the slightest pallor or muddy hue of the skin. On palpation there was nowhere any tumor. The skin felt infiltrated and firm; and had to be picked up in large pieces, particularly over the backs of the hands and over the cheeks, everywhere a very solid infiltration. Over the manubrium and the lower cervical regions the infiltration was particularly marked.

The thyroid gland could not be well felt. If anything it was diminished in size. There was no enlargement in any of the groups of lymphatic glands.

When he arrived in Elkton, Dr. Ellis noticed the rapid action of the heart, and since then the pulse rate had not been under 120. The heart sounds were clear; there was no bruit at the base. The apex beat could be seen and felt a little outside the mamillary line. There seemed a little increase in the transverse area of dullness. Percussion over the manubrium was clear. The spleen was not enlarged. It was difficult to make a careful palpation of the liver. It was thought at first that perhaps the left lobe was enlarged, but on subsequent examination I think it was perhaps the serrations of the left rectus. Percussion gave no increase in the area of liver dullness.

The appetite had been good, and he had had no nausea, no vomiting.

After arriving in Elkton he had had on several occasions passages of blood, sometimes it was rather watery, no clots. He had sometimes as many as three and four stools in the day.

A special feature was the increasing weakness. Getting out of bed prostrated him very much, and he even had difficulty in sitting up, he felt so weak. There was a slight fine tremor of the fingers when the hands were held out, but I could not be certain that it was more than might be expected in a man who had become feeble and weak. There seemed no disturbance of sensation anywhere. The knee-jerks were present. From the time of his arrival in Elkton there had been

no sign of any mental disturbance. He seemed at times a little dull and apathetic, but the delusions had disappeared. He passed rather more urine than normal, but it contained neither albumin nor casts. His temperature was normal; during October and November his wife said that he constantly complained of feeling hot and flushed.

As I had seen this patient only at night, I visited him on March 1, in order to see the condition by daylight. The congested appearance of the face, the flushing of the skin of the chest on exposure, and the rapid pulse were very striking. On the other hand he had become apathetic and stolid. The eyes could scarcely be called prominent. The face looked very full and congested. The pulse had become more rapid, was 132 to 136, and occasionally dropped a beat. He had been sleeping very well at night, and he remained quite rational. Dr. Ellis thought that the weakness had increased considerably. He could no longer get up to use the commode. He had one involuntary passage. He had passed nearly eighty ounces of urine within fifteen or sixteen hours. The examination of it showed: deep yellow color, clear, no apparent precipitate; acid; 1.029; very large quantity of albumin; sugar present, reduces Fehling's and Mylander's solutions; polariscope, rays rotated to right indicating 2.5 per cent.; only a few finely granular casts, and a few squamous epithelial cells. There were still three or four stools in the day, usually thin and blood stained.

In a letter from Dr. Ellis, March 3, he states that the polyuria had persisted. The temperature had risen suddenly and had kept between 103° and 103.5° . He had become actively, even violently, delirious. The pulse continued with undiminished, indeed increasing, frequency. There was still blood in the stools. The most remarkable feature was the rapid diminution of the infiltration of the skin.

March 4. I saw the patient this morning. Dr. Ellis tells me that he began the thyroid extract on Monday, and continued it until Tuesday night, when the maniacal symptoms developed. He took in all twenty-five grains. Last night he had a combination of chloral and sulfonal and was much quieter, slept five or six hours. Throughout Tuesday night and the greater part of Wednesday he was in a very excited condition, using shocking language and making attempts to get out of bed, which he was really too weak to effect. The change in the patient since I saw him on Monday was very remarkable. He had become much thinner. The bloated infiltrated condition of the skin of the face and neck and upper part of the chest had lessened very greatly. There was not the same bloated aspect about the eyes, and the conjunctivæ

were not reddened. The abdomen, too, looked smaller, and there was evidently less infiltration about the legs and arms and hands. The skin was everywhere very dry and rough. He still looked flushed about the face and neck.

The pulse was between 140 and 145, regular, and of rather better volume than yesterday. The heart impulse was forcible, outside the nipple in fifth interspace. The pupils were of medium size, reacted to light.

The mental condition was peculiar. He seemed to recognize me. He was quiet most of the time; then would do odd things, as blowing three or four times forcibly, and frequently stretching out his hands to grasp imaginary objects, or he would ask some foolish irrelevant question. He was quite docile, and took food from Dr. Ellis; with the others he was a little obstinate. There was no jactitation and the tremor was very slightly perceptible. The diarrhœa had stopped for nearly thirty-six hours. The urine had been passed involuntarily. Examination of a sample by Dr. Fitcher showed the following: Specific gravity, 1.023, large amount of albumin, moderate number of fine and coarsely granular casts, and five per cent. of sugar.

On March 7, I received a note from Dr. Ellis, stating that the patient died of exhaustion that morning at nine o'clock. The active delirium never recurred. An autopsy could not be obtained.

Briefly summarized, a healthy man, weighing 145 pounds, rapidly increased in weight during three months to 182 pounds, the features became full and bloated, and the abdomen enlarged so rapidly that it split the corium in the inguinal regions in wide crescentic lines. Attacks of diarrhœa and marked irritability of temper were the only additional symptoms of moment. On February 5 he went South, and in Florida became extremely restless and had delusions. He returned to Elkton on February 13. From this date to March 7, the day of his death, his illness may be divided into two periods. To about March 1 the infiltrated, bloated condition persisted, his mind was clear, the pulse rate was not above 120, he had slight diarrhœa, sometimes with bloody stools. From March 1, coincident with the administration of the thyroid gland extract, he rapidly diminished in weight, and by the 4th he had lost in great part the bloated, infiltrated appearance. The tachycardia was more marked, he had become excited and delirious, and he had developed since March 1 an intense glycosuria.

The clinical picture presented by this case does not conform to any one disease, but presents certain combinations of myxœdema with exophthalmic goitre. In the cases recorded

in the literature, so far as I can ascertain, the myxœdema has followed the symptoms of exophthalmic goitre at a variable period of months or years. This patient presented first the features of an acute, rapidly developing myxœdema. The increase in weight within three months was remarkable, but his appearance when I saw him first was not that of ordinary myxœdema. He had the bloated, swollen appearance of a stout man who had been drinking heavily. During the last part of his life the symptoms were those which we see in the toxæmia of acute exophthalmic goitre, viz, the tachycardia, the slight tremor, the delirium and the diarrhœa. When I saw him there was no evidence of exophthalmos, though Dr. Ellis thought that on his return to Elkton the eyes were a little prominent.

It seems most rational to suppose that in this case there was a perversion of the function of the thyroid gland, resulting in a toxæmia, which presented some of the features of myxœdema and some of Graves' disease.

DISCUSSION.

Dr. Booth said that in one of his cases—the one in which there was no improvement after thyroidectomy—the patient presented some of the symptoms which Dr. Osler had enumerated in the report of his case. There was a rapid increase in weight from one hundred and twenty-eight to one hundred and sixty pounds; the face was puffy, and the patient had frequent and severe attacks of diarrhœa, marked tremor, and a very rapid pulse, ranging from one hundred and forty to one hundred and sixty beats per minute.

Dr. Osler said that in the case he had reported there were some of the features of acute Graves' disease with mania; and that it was somewhat analogous to the case reported by Dr. Lloyd in which the disease lasted only a few days.

In those cases where sudden death follows the operation of thyroidectomy it would be interesting to learn whether there is any enlargement of the lymphatic glands and the thymus; it is possible that in such cases we may have a condition of so-called status lymphaticus, in which we know sudden death occurs.