EFFECT OF LEUCOTOMY IN INITIATING NORMAL MENSTRUAL CYCLE AT AGE 36

BY

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Amenorrhoea is a feature common to all prolonged and debilitating illnesses, both physical and mental. However, it is customary to have a history of normal menstruation prior to the onset of the illness, and the amenorrhoea associated with the disease process is rarely absolute. It is unusual to find a patient who has never experienced a regular menstrual cycle developing a normal one in middle life after successful treatment of a prolonged nervous disorder. Such a case history is recorded below.

Case Report

The patient was first seen in December, 1950, when aged 34. She complained of having been afraid to eat since the age of 14. She had a tendency to be constipated, and thought that if she ate a normal amount of food it would only accumulate within her body. Her family brought her up for medical advice, since they were concerned about her lack of appetite and consequent loss of weight. There was no relevant family history of physical or mental disorder. The patient's birth and early development were uneventful. She was, however, a shy and solitary child, and was excessively afraid of the dark. She was an inveterate nail-biter. From the age of 7 to 18 she was educated at a boarding-school, where she was a model pupil, but failed to take the school certificate. She became a student at the Royal College of Music and qualified A.R.C.M. With the outbreak of war she became a V.A.D., but lived at home to help look after an invalid mother. After the end of the war she continued to live at home, and became increasingly less able to look after her mother.

Menstruation began at 14. She had two brief menstrual flows, each lasting three days and separated by a period of two to three months. No further menstruation occurred until, at the age of 17, hormonal treatment produced two periods, and these ceased with the cessation of treatment. Thus, when first seen she had not menstruated for 17 years, and her previous menstrual history consisted of two scanty menses associated with the onset of puberty and two induced by hormones. She had always been an anxious, worrying person, preoccupied with her bowel function. She could not start her day's work until she had achieved a bowel movement. This often took a long time to carry out, and she had recourse to enemas and purges to allay her anxiety. Her manner had always been one of extreme politeness.

Her illness began with the onset of puberty at the age of 14. She had developed well, and weighed 9 st. 2 lb. (58 kg.). She felt rather self-conscious about her adolescent obesity, since she was the object of some teasing. At that time a fear of eating developed; she thought the food might fail to pass through her bowels, and she began to conceal the food she did not eat. She worried excessively about defaecation, and the sight of the lavatory book with its crosses haunted her. Her defaecation ritual was so prolonged that it interfered with her participation in normal morning school routine, and during the rest of the day her mind was preoccupied with ruminations on the subject of bowel function. She ate little, and gradually lost weight. Life at home made no great demands on her, but the weight loss continued. In 1947 she had remedial treatment in Ruthin Castle Hospital. This consisted of paraffin wax baths, which made her feel slightly better. In 1949 she entered a psychiatric hospital, but had no treatment apart from psychotherapy, and after three months she felt worse and discharged herself. Depression, fatigue, coldness, and inability

to concentrate were her chief complaints. She became more anxious, had panic attacks, and slept badly, finding it difficult to get off to sleep. She was eating little, and her main meal consisted of two gooseberries and half a tomato.

On physical examination (December 12, 1950) she was seen to be grossly emaciated, and looked like a Belsen survivor (Fig. 1). She weighed only 5 st. 4 lb. (33.6 kg.). No other physical abnormality was noted, apart from acrocyanosis of the extremities. Her blood pressure was 100/60 mm. Hg. There was no hirsuties of the anorexic type. She was extremely tense and anxious, and it was some time before she gained enough confidence to talk at length about her preoccupation with her bowels and her compulsion to starve herself. B.M.R. was -36 ; 17-ketosteroids, 3.6 mg. in 24 hours. Psychological testing showed her to be of normal intelligence, and the Rorschach test confirmed the presence of obsessive traits.

After admission to hospital modified insulin treatment was given morning and afternoon. By February 18, 1951, her weight had increased to 7 st. 2 lb. (45.4 kg.), but her tension had increased also, and she required 3 to 5 gr. (0.2 to 0.32 g.) of sodium amylobarbitone to enable her to sleep through the night. It was difficult to persuade her to take enough food with the insulin. In turn, she frequently and anxiously requested enemas to rid her body of the accumulated food. With this small gain in weight, her tension reached unbearable limits, and it was decided that the only treatment likely to help her was a very modified leucotomy.

An anterior lower pole operation was therefore carried out on February 20 by Mr. Harvey Jackson. Recovery from the operation was uneventful, apart from the fact that she lost about a stone (6.4 kg.) during the week in which the operation took place. In the following week she regained that amount within five days, and it was apparent that modified insulin therapy played but little part in this gain in weight, so it was discontinued. She still continued to increase in weight without special treatment. No attempt was made to force her to eat. She still talked at great length about her defaecation difficulties, and made her customary demonstration against regular meals, but she was often discovered eating surreptitiously in the larder, and scraping the communal butter and jam dishes. She was no longer fastidious in her habits and polite in her manner. She told people precisely what she thought of them, and made no attempt to hide her true feelings. Her sleep was good, however, and nine days after the operation she had her first spontaneous bowel movement—that is, without purge or enema. Within three weeks of operation, normal bowel function was established, and her customary politeness of manner returned. She still found it difficult to eat

FIG. 1 FIG. 2

FIG. 1.—Photograph of patient in December, 1951. FIG. 2.—Photograph of patient in February, 1953.

communally, but she continued to grow heavier. When discharged from hospital on April 25 her weight was 8 st. 4 lb. (52.6 kg.).

Subsequently she became a welfare worker with a charitable organization in London, and was able to lead an independent existence away from home. In July it was noted that her weight increased to 8 st. 13 lb. (56.7 kg.), almost her best weight. In the autumn of 1951 she took a course in domestic science, and early in 1952 became a cook in the Y.W.C.A. On June 25, 1952, menstruation began, the flow lasting for four days. She menstruated again on August 5 and September 4, and normal menstruation continued at intervals of approximately 28 days. When last examined (February 16, 1953), she looked well (Fig. 2), and her weight was 8 st. 11 lb. (55.8 kg.). Her blood pressure was 150/90 mm. Hg. Her bowels had remained regular without aperients, and she said, "When I look back and think what it was like before the operation, I can't get over it." She remains polite, and still retains some mild obsessive traits such as checking door locks and light switches. On March 9, 1953, the 17-ketosteroids were 8.2 mg. in 24 hours.

Discussion

The most interesting feature of this history is that menstrual function did not begin immediately after the operation. Almost a year elapsed after the patient had reached her top weight before the flow began (Fig. 3). This point has been

FIG. 3.—Weight chart. Arrows show times of menstruation.

commented on by Sargent (1951), who described two patients with prolonged amenorrhoea. They were also relieved to some extent by leucotomy, and the restoration of body weight was associated with the return of menstrual function. It was noted that in the obsessive patient a gain in weight aggravated tension, but in the leucotomized patient the normal body weight could be reached without excessive tension, and menstrual function could be established.

Hubble (1952) also considered that the restoration of menstrual function depended upon normal nutrition and absence of emotional stress.

Summary

The history is given of a patient who began to menstruate normally for the first time at the age of 36. So far as is known, no patient similar to this has ever been described before. She was a woman of obsessive personality, who had kept her weight down by living on an inadequate diet for many years. The operation of prefrontal leucotomy relieved her tension and enabled her to gain over 3 st. (19 kg.) in weight fairly rapidly. Sixteen months after the operation, and almost a year after she had reached her best weight, menstrual function began. The point is made that regular menstruation depends upon a good level of nutrition, the maintenance of normal body weight, and the absence of excessive emotional tension.

ADDENDUM.—Since this paper was written, nine months ago, and while awaiting publication, further interesting

observations have been made. Feeling so much better, the patient took on more arduous work as an assistant cook in a large restaurant. The strain of this caused her menstruation to cease for three months, but it returned when she went on holiday. At the moment she is doing a very difficult job, and her periods have been absent for the past two months. Because of the modified nature of the leucotomy she remains overconscientious and somewhat anxious. This provides further evidence that in such patients normal menstruation may depend both on restoration of physique and on freedom from undue tension. Her weight remains good.

My thanks are due to Dr. William Sargent for his kind interest in this paper.

REFERENCES

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Medical Memorandum

A Case of Dracunculiasis (Guinea-worm) in Nairobi

An Indian carpenter aged 32 complained of a painful swelling between the last two digits of his left foot. He had noticed this lump for about a week, and it was growing steadily and becoming increasingly painful. He had had pain in the left knee and very intense pain in the left groin six weeks before. The swelling resembled an abscess which was not ready for lancing. There was considerable cellulitis around the swelling. I asked him to apply hot fomentations for a day or two. He came to me forty-eight hours later in a state of great agitation and excitement, because he saw, to his horror, what appeared to him to be a horrible snake coming out of his foot. I told him not to be alarmed, and that he was not to pull or in any way interfere with the worm, but that he should wind it gently and carefully round a stick. Also that he should not allow it, if possible, to come in contact with water. He preferred to pass a thread through it and then wind it round his toes as it is done in India.

The worm seemed to come out at the rate of about an inch a day, and the cellulitis and the swelling had disappeared in about a week. The whole worm was extruded in the course of 23 days. It was the typical *Dracunculus medinensis*, about 2 ft. (60 cm.) in length, and the thickness of a knitting needle. It was white in colour.

The patient stated that he went to India nine and a half months previously. He stayed in a village near Jamnagar, which, I believe, is an endemic area for dracunculiasis. While he was there he had heard of more than 200 cases in that area. In one case the whole worm was extruded in 24 hours. He stated that he had drunk well-water which had not been boiled.

The remarkable thing is that he did not show any of the usual clinical symptoms such as fever, diarrhoea, vomiting, and urticaria, which are associated with dracunculiasis at the time of the arrival of the worm to the surface for extrusion. He complained only of pain in the knee and the left groin.

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[Photo : Ram Singh]