

PELLAGRA  
SECONDARY TO VOLUNTARY INANITION.  
REPORT OF A CASE.

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During the present year there has been studied in the Portland Medical Hospital two cases of pellagra, seemingly secondary to a voluntary restriction of the diet in association with chronic gastrointestinal lesions.

The first patient had seemingly chosen a deficient, largely puree diet because of a rectal stricture. That condition was operated upon by Drs. Joyce and Seabrook and, because of the rare association of rectal stricture and pellagra, the case was briefly reported by them in the June issue of this journal. The pellagrous skin lesions first appeared about a month after the surgical removal of the rectal trouble and after the patient had shown some improvement in her general physical condition. This improvement was, however, of brief duration and, coincident with the appearance of the dermatitis, a definite dementia supervened in which state the patient still lives.

The second case studied has certain interesting points of similarity to the one mentioned above. The recognized evidence of pellagra made its appearance several months after the voluntary restriction of the diet on the part of the patient, and also after a considerable improvement in her physical condition had been brought about in the hospital. Because of the interesting history and course of the patient and because pellagra is rare in this section of the United States, we have thought it proper to place it on record.

Mrs. K. aged 61, a housewife, living under the most favorable circumstances in regard to her home surroundings, became suddenly ill in July, 1924, with a sense of choking and difficult breathing, followed soon by chest and upper abdominal pain, nausea and vomiting. The pain was first thought to be of cardiac origin. Several similar attacks of pain had been experienced about seven years before. It was of rather long duration and was not attended with the

fear of dying. No corroborative signs of heart disease were recognized and, as the vomiting and abdominal distress continued, the probability of a chronic gallbladder disease was considered.

The patient became psychically depressed, refused to eat because it gave her distress, her bowel became alternately constipated and loose, and finally loose at all times, so that from eight to twelve watery stools, containing considerable mucus, were voided each day. Under the solicitous influence of the family, and against the wishes of the physician, she became a morphine addict. One-sixteenth to one-fourth grain of morphine was given to her hypodermically each day for months. From the beginning of the illness to her entrance into the hospital, April 27, 1925, her weight had been reduced from 129½ pounds to 77 pounds.

The patient's past history was not important, aside from the fact that she was of a moderate asthenic type of build and always of a nervous temperament. She had had a hysterectomy performed in 1905 for uterine fibroids, and her tonsils were removed in 1917. She gave an indefinite history of rheumatism and a questionable history of typhoid fever in earlier life. She is the mother of two children.

Examination in hospital showed, in brief, a pale, sallow-skinned, emaciated, elderly woman of general asthenic build. No septic foci were found in the head. She wore artificial dentures. The superficial lymph glands were not noticeably enlarged. The thyroid was small. The lungs were free from adventitious sounds. The heart tones were clear in character; there was no cardiac enlargement. In stereoscopic chest films the arch of the aorta was seen to be somewhat widened; the cardiorespiratory ratio was 45.2. There was no evidence of tuberculosis. The blood pressure was low and the abdomen was moderately bloated and soggy on palpation. The spleen was not palpable. The colon was spastic and tender. The sigmoidoscopic examination showed a pale mucous membrane with injected points and covered with considerable mucus. The hemorrhoid area was irritated and there were small hemorrhoids which had evidently bled at times. Stomach analysis through a two hour period showed the complete absence of free hydrochloric acid and combined acid from 34 to 40 to 30 during the same time; no blood or other foreign substances were present. Many stools were examined when the patient was not on a meat diet and showed little or no occult blood. The urine contained traces of albumin. The urine Ph was 6.25. The blood examination on entrance was Hg. 73 per cent; red cells, 3,584,000; C. I. 1.04; Vol. I. 1.16; Icteric I. 6.6; white cells 8,200; polymorphonuclear cells 84 per cent; no eosinophiles. The urea nitrogen was 12.5 mg.; plasma chlorides 428 mg.; alkali reserve 80. Wassermann negative.

Later, on July 9 and 10, when the patient was stronger and the bowel function quite normal, the roentgenologic examination of the abdomen showed normal findings. There was no indirect evidence of gallbladder disease. Direct films of the gallbladder were not taken.

The progress of the patient in the hospital was very interesting. It was with the greatest difficulty that she could be persuaded to take any food by mouth. Tube feeding and rectal feeding had been attempted

at home. She refused to masticate her food and during the first week persistently refused to accept any food that could not be swallowed without chewing. Mentally she was quite clear. The hypodermics of morphine were replaced by those of sterile water and she was given deodorized tincture of opium in capsules which later were withdrawn without her knowledge. Hydrochloric acid and pancreatin were given to her.

Her food intake during the first two weeks averaged from 700 to 1000 calories per day. On the 14th day she took 150 grams of carbohydrate, 20 grams of protein and 27 grams of fat. She was still very weak, suffered much abdominal distress and had five semi-liquid stools. Her tongue and mouth were sore. She was first weighed on the 22nd day—77½ pounds. On that day she ate 1560 calories; 108 grams of carbohydrate, 48 grams of protein and 104 grams of fat, and had eight liquid or mushy stools. Her diet consisted mainly of purees and gruels with some fruit juices; foods that she could drink without mastication because of the soreness of the mouth. She did not take kindly to milk but it was forced. On the 27th day her weight was 80¼ pounds and her food intake was 2014 calories.

On that day there appeared a patchy dark brown discoloration on the dorsum of each hand. It progressed slowly in a bilaterally symmetrical manner, becoming scaly, until it covered the entire backs of the hands and fingers. The plantar surfaces remained soft, crinkled and pink. Having in mind the possibility of pellagra, more milk and fruit juices were added to the diet. The patient's general condition had greatly improved and continued to do so. There was less nervousness, less abdominal distress. The mouth had nearly healed, there were three and four mushy stools per day, and she was taking graduated walks out of doors. But the condition of the hands slowly progressed. On the 44th day the patient was told that she had pellagra, a condition probably due to a deficiency diet of her own choosing and that she must cooperate more in regard to her diet in spite of possible increased distress. Dr. Kingery, of the

department of Dermatology of the University, concurred in the diagnosis.

At this time the patient's weight was 88½ pounds, and her calorie intake 2439—191 grams of carbohydrate, 61 grams of protein, and 159 grams of fat. To her diet there was now added 100 grams of fresh beef, one liter of milk and four eggs per day, following the work of Voegtlin.<sup>1</sup> Her general condition continued to improve and at the same time a gradual, progressive clearing of the hands took place.

She left the hospital on the 79th day, weighing 106½ pounds, much improved in health. Two soft formed stools were usually passed per day. The mouth was healed and the hands were practically cleared. Her diet now consisted of 296 grams of carbohydrate—76 grams of protein and 214 grams of fat, or about 3400 calories. At the present time, two months later, the patient's weight is 116 pounds and there has been no relapse of the pellagrous symptoms.

An analysis of the above case would justify the conclusion that the early nervousness, the stomatitis and the looseness of the bowel were not pellagrous symptoms for many months. They were secondary to an acute illness and continued because of insufficient control. When finally the pellagrous dermatitis appeared and the patient was told of her condition and its probable meaning, cooperation was obtained, with the result that an early return to fairly good health ensued. The dermatitis itself did not appear until considerable improvement had taken place in the general physical condition of the patient and she had been on a moderately liberal diet for some time.

1. Quoted by McCollum: The Newer Knowledge of Nutrition, 2nd Edition, p. 284.