Sept. 25th. On first getting down stairs, he suffered a good deal from swelling of both legs.

Nov. 19th. The ulcer was now reduced to a mere line a few inches long, and half-an-inch wide. He complained of rheumatic pains in his right shoulder from exposure to a draught; and of cough, in common with the other members of his family. The knee-joint admitted of very slight motion. The abscesses were healed. The legs were now swelled very slightly. He was ordered to take compound squill pill three times a day.

Dec. 28th. The sore was quite healed: he still suffered from rheumatism, etc., but was gaining flesh. The motion at the knee was improving, but he could not yet bend it to a right angle with the thigh. The cicatrix seemed healthy, but he occasionally felt a shooting pain in its upper part at the bend of the thigh, where it seemed a little chafed by his flannel, and a truss which he wore for a left inguinal hernia. This part was now covered with cotton wadding, and the whole daily washed with rain water, and slightly anointed with fresh lard.

REMARKS. Amputation was out of the question, from the extent of the inflammation on my first visit. I had therefore to trust to stimulants, and I consider that my patient owed his life to the port wine, on which he almost entirely lived for the first ten days or fortnight of my attendance on him.

He assures me that the nail penetrated fully three-quarters of an inch; and it must have entered the joint; yet the probability is, that if he had rested for a few days at first he would have felt nothing more of it.

There is some thickening and tenderness around the punctured spot; but the patella is freely moveable, and the difficulty of bending the joint lessens; it moves freely up to about an obtuse angle with the thigh. He walked to church, Jan. 31st, with one crutch and a stick, and found from the fit of his breeches, put on for the first time on that day, that the knee was larger than the other. There is no thickening above the patella. The length of the cicatrix is one foot seven inches; its greatest width at the bend of the thigh is four inches, average width about three inches, in some parts scarcely two. It has receded from the crest of the ilium three inches; the ulcer extended rather beyond this point.

Tewkesbury, Gloucestershire, February 1853.

SUGAR IN URINE NOT ALWAYS INDICATIVE OF DIABETES.

By HENRY JOHNSON, M.D., Physician to the Salop Infirmary.

ALTHOUGH a saccharine state of the urine be the pathognomonic sign of diabetes, we are not too hastily to conclude that this very serious disease exists, whenever we find sugar in the urine.

CASE I. A clergyman, aged 60, had common catarrh, for which he took proper remedies, and, on his return from Aberystwith, came to consult me.

In the course of conversation with him, I found that he was in the daily habit of taking at his breakfast large quantities of *sweet-meats*, or preserved fruits, for the purpose of keeping his bowels regular. He also complained of frequent calls to make water, and it was this circumstance alone that induced me to get an opportunity of testing the urine. It was pale, and of the specific gravity of 1040. Treated with liquor potassæ, according to Moore's test, it yielded a deep reddish brown colour, and it fermented freely with yeast.

Here, therefore, there was the characteristic symptom of diabetes, "*saccharine urine*," but, no rational sign of the disease, except frequent calls to pass water. It was *temporary or occasional diabetes*, and, I believe, easily removed by avoiding in future the abuse of sweets. The patient passed from under my own immediate observation, and I had not another opportunity of testing his urine. But I have

reason to believe that it was so examined, and found to be no longer saccharine. He died about a year after, of disease unconnected with diabetes.

CASE II. Mr. A. B., aged 58, a very tall, portly man, of bilious temperament, ample abdomen, and accustomed to very generous living, sent to me on account of a very severe pain in the hypochondriac and epigastric regions, to which he was very subject. There was no febrile excitement, but he had loss of appetite, a furred tongue, and constipated bowels. As he had formerly, (as I was told) passed a gall-stone, it was suspected that he might be again suffering from this cause, but no such concretion made its appearance. I considered it a case of severe flatulent colic. He had certainly not a single symptom of diabetes; however, to my great surprise, on examining the urine, I found it pale, of high specific gravity (1048), and it contained sugar, as evinced by Moore's test, and that of fermentation with yeast.

The colicky pains soon yielded to appropriate treatment, and the patient required no particular regimen on account of the state of the urine.

It is now two years since the above case occurred. The gentleman alluded to is now performing the active duties of life, and is apparently well. But I have lately obtained an opportunity of again testing his urine, and found it still saccharine.

I consider such cases as the foregoing very valuable, as teaching us caution in our diagnosis and prognosis; for without such proofs that a saccharine state of the urine may be temporary, or normal, we might form a more unfavourable opinion than the circumstances justified.

From what I have observed in another case, I suspect that in feeble states of the digestive power of the stomach, cane sugar is converted into grape or diabetic sugar, and that this, if not further changed in the animal economy, passes into the blood, and is voided by the kidneys, even in apparent health.

The preceding observations were written some time since. I have this day been reading with much pleasure M. Dechambre's paper, "*On the Habitual Presence of Sugar in the Urine of Old People*."*

We have here, therefore, two independent series of facts, M. Dechambre's experiments, and my cases, materially illustrating and confirming each other. The former make us acquainted with a curious physiological law, the latter teach a useful practical lesson. M. Dechambre thinks that the presence of sugar in the urine of old people, arises from the impeded action of the lungs, incident to old age, according to the theory of M. Alvaro Reynoso. The subjects of my cases were not "old persons"; but, perhaps, the function of the lungs in them might be relatively less active than natural from want of active exercise.

Some very curious experiments have been performed by Dr. Claude Bernard upon the sources of sugar in the animal economy. He concludes—1. That sugar is a normal ingredient in the blood and liver of animals. 2. That the formation of sugar takes place in the liver, independent of the ingestion of saccharine or feculent food.†

I have repeated some of Dr. Bernard's experiments. He obtained sugar from the liver and blood of dogs and rabbits. I have found it in the liver, blood, and urine of sheep, slaughtered for the market; hence it appears that the urine of sheep, like that of M. Dechambre's "old people", normally contains sugar; and that in fact sheep are naturally diabetic!

Although sugar was detected by Mr. McGregor in the healthy stomach,‡ I am not aware that it has been discovered in the healthy human liver; and in the only instance in which I have had an opportunity of trying the experiment, I failed to find it.

Shrewsbury, February 13th, 1853.

* Gazette Médicale, April 8, 1852.

† Arch. Génér. de Méd., Nov. 1848.

‡ Medical Gazette, 1837.