

pilgrims certainly suffered from cold, want, exposure, and over-crowding. Some of them were detained at Manihari nearly a week, instead of a day or so, as they probably expected. If they had food or money with them, the majority would not have enough to last them the whole of their stay, such food as they had was probably *chura* (parched rice), the most likely of all foods to set up bowel-complaints. Food was selling at famine prices at Manihari, rice at four annas a seer, flour fourteen annas a seer, mustard oil a rupee a seer, earthen dishes four annas each. The nights of the 6th and 7th February were the coldest known for a long time, the dry thermometer going down to a minimum of 34°, the wet to a minimum of 30°, or below freezing point; and though the night of the 8th was not so cold, the minimum was still only 43°. On the river bank it would probably be colder than in Purnia, and many probably spent the night in wet clothes after bathing.

At Karagola large crowds also assembled on the 6th February for the bathing festival. How many pilgrims marched down the Ganges-Darjiling Road to Karagola there is no record, nor can the number be computed in any other way than by the roughest of guesses. The police officer in charge of Karagola outpost, however, informed me that the river bank was covered for miles with the bathers, and I saw the road through Purnia occupied for days by a continuous stream of pilgrims marching down to Karagola before the 8th, and returning after the 8th. A great number of these pilgrims were hill men, and these men, coming from the north, mostly came into the high road at Purnia. Large numbers also, I believe, came down by train from Forbesganj, in the north of the district to Purnia, and marched from Purnia to Karagola by road (thirty miles), in preference to going by train to Manihari, and either bathing there, or walking across from there to Karagola some ten miles. Some also came from the north-east, marching down the road for its whole length of 106 miles. Among these pilgrims, however, no cholera was reported at the time.

I visited Karagola mela on the 16th February, and was then informed both by the police officer and by the Civil Hospital Assistant on duty at the fair, that they had not heard of any cholera among the bathers on the 8th. This fair has often been blamed in previous years for starting epidemics of cholera. This year, however, there does not appear to be any probability that the fair was to blame as the cause or as the starting point of the epidemic. The sanitary arrangements of the fair were good, latrines for men and women having been provided; and orders having been passed, and, as far as possible, enforced, that the site of the fair and the river bank should not be resorted to for purposes of nature; a temporary hospital, with a competent Hospital

Assistant, and a sufficient stock of drugs had been provided; and, above all, the number of persons resorting to the fair was very small in comparison with recent years. In 1890 the largest number present on any one day was 34,000; in 1889, 39,000; and, as there is a constant coming and going of people during the whole of the two weeks that the fair lasts, the total number attending would be much greater. This year, when the census was taken on the night of 26th February, the number present at the fair was found to be 5,372. And though, no doubt, the total number of persons attending the fair between 23rd February and 8th March was much larger than this, it is certain that the fair was a very small one, as compared to recent years. This was due to the fact that large numbers of persons who would otherwise have attended the fair had come to Karagola for the bathing festival on the 8th February, and did not care either to remain there until the fair opened two weeks later, or to return from their distant homes when the fair was open. In particular, I believe that the number of hill men at the fair this year was very small; as most of those, who would otherwise have been present at the fair, had bathed in the Ganges on the 8th, and had returned home. One case of cholera occurred at the fair, and proved fatal; but the total number of cholera deaths registered at Karagola outpost was only 9 in February and 20 in March, so it is evident that there was no serious outbreak in this part of the district until fully a month after the breaking up of the fair.

(To be continued.)

JAMBUL IN DIABETES MELLITUS.

By SURGEON D. M. DAVIDSON, M.B., I.M.S.,
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THE seed of the Jambul (*Engenia Jambolana*) lies enclosed in a papery shell within the berry. The berry is succulent and has an astringent subacid taste.

From the seed the chief preparation of the drug is prepared; great stress being laid upon the necessity of employing only fresh carefully dried seeds.

For long Jambul has been used by native physicians in the treatment of diarrhoea; but about forty or fifty years ago Dr. Blane drew attention to its effects in diabetes.

Within the last few years many experiments have been made with this drug, and the general conclusion arrived at is that apart from its astringent properties, it not only prevents or retards the conversion of starch into sugar in diabetes, but also diminishes the volume of the urine.

To test its action, very careful observations were made in a case of diabetes recently under treatment.

The liquid extract prepared by a well-known firm was used, and there was every reason to suppose that it was efficient.

The diet was carefully regulated and remained unaltered during the whole period of observation; and from the circumstances of the case, it is beyond doubt that no additional article of diet was obtained.

The patient was under treatment from October 6th to November 7th when he left hospital.

While outside and before his diet was regulated, he stated that the amount of urine excreted was very excessive.

The period of treatment was divided into five portions:

(a) From the 6th to 11th October (6 days) no drug was exhibited.

(b) From the 12th to 18th October (7 days), liquid extract of Jambul was given in 3i doses three times a day.

(c) From the 19th to 28th October (10 days), the dose was increased to ʒiiss. t. d. s.

(d) From the 29th to 31st October no drug was given.

(e) From the 1st to 7th November one grain of opium was given three times a day.

It was intended to increase the dose of opium, but unfortunately the patient left.

The following table gives the daily average excretion of urine and sugar, as well as the daily average specific gravity of the urine for these periods. For convenience sake the periods during which no drugs were employed are placed together.

Period.	Treatment.	Daily average amount of urine in c.c.	Daily average specific gravity.	Daily average amount of sugar in grammes.
(a) Oct. 6—11 ...	Nil.	2710	1036	225.3
(b) „ 12—18 ...	Liquid ext. Jambul ʒi. t. d. s.	3231	1037	263.1
(c) „ 19—28 .	Liquid ext. Jambul ʒiiss. t. d. s.	3012	1035	219.5
(d) „ 29—31 ...	Nil.	2780	1036	201.8
(e) Nov. 1— 7 ...	Pulv. opii, gr. i. t. d. s.	2700	1032	153.5

From this table the well-known action of opium in this disease is apparent, and no doubt if the drug had been pushed, its effects would have been more satisfactory.

Apart from its influence upon the excretion of sugar and urine, it remarkably soothed his general symptoms. Before its use he complained bitterly of pains in various parts of his body, which soon vanished after two or three doses.

Nothing definite can be said regarding the influence of Jambul in this case. If it had any effect is doubtful; it seemed to increase the symptoms. The greatest excretion of urine and sugar on any one day during the period of

treatment occurred while he was taking ʒiiss. doses (*viz.*, on the 27th). On that day 4320 c.c. of urine with a specific gravity of 1037 and containing 448 grammes of sugar were excreted.

NOTES ON CASES OF ABDOMINAL SURGERY.

BY SURGEON G. JAMESON, M.B.,
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1. Penetrating wound of abdomen with protrusion of viscera.

Koonta, female, *æt.* 55 years, admitted into the hospital on the 26th August last at 3-30 P.M., suffering from a wound of the abdominal wall with protrusion of viscera.

History.—Nineteen hours previous to admission patient had been gored by a bull; this was almost immediately followed by a protrusion of viscera. She was at once brought to this hospital from the mofussil, the only protection afforded to the viscera during transit being a piece of dirty cloth.

Condition on admission.—Expression anxious, breathing quick and shallow, pulse small and rapid, temperature sub-normal, she was in fact in a condition of collapse.

One inch above and to the right of the umbilicus was a horizontal wound 2" long; through this the stomach, gastro-colic omentum, large and a portion of small intestine were protruding: the stomach and intestines were distended, scarlet in colour and covered with patches of inflammatory lymph.

Treatment.—Chloroform being administered, I proceeded more carefully to examine into the condition of affairs; pulling down more gut from the abdominal cavity, I found its condition fairly normal, then each portion of extruded gut was carefully examined, all pieces of straw and dirt removed, and the whole thoroughly washed with boracic acid lotion. A small wound of the peritoneal covering of the large intestine was found, but not of sufficient extent to require suturing. The abdominal wound was enlarged, in order to enable me to reduce the gut without employing a force, which would, considering its condition, have been unjustifiable. The extruded viscera were now reduced and the abdominal cavity flushed with boracic acid lotion. The edges of the wound were freshened with scissors, the peritoneum and deep structures of the abdominal wall brought into apposition with carbolized gut sutures, drainage tube inserted between the deep and superficial structures, and finally, the superficial structures brought together with horse-hair sutures. The wound was dressed with iodoform, gutta-percha tissue and sal alembroth wool. The patient was now found to be almost pulseless at the wrist; a hypodermic injection of sulphuric ether was administered and the patient removed to bed.