

at the latest. They should be out of the plains before the heat sets in, and not return until punkahs are discontinued.

HER MAJESTY'S 79TH CAMERON HIGHLANDERS.

*Return showing the Diseases, Admissions, and Deaths of the above Corps, while employed at road-making between Murree and Abbottabad, during the summer of 1865.*

Camp Khyra Gallee, 25th October, 1865.

| DISEASES.           | RIGHT WING. |       | LEFT WING. |       | TOTAL.    |                               | REMARKS. |
|---------------------|-------------|-------|------------|-------|-----------|-------------------------------|----------|
|                     | Admitted.   | Died. | Admitted.  | Died. | Admitted. | Died.                         |          |
| Tonsillitis         | 3           | 1     | 4          | ...   | ...       | ...                           |          |
| Ophthalmia          | 1           | 1     | 2          | ...   | ...       | ...                           |          |
| Dysentery           | 1           | 14    | 15         | 1     | ...       | ...                           |          |
| Diarrhoea           | 8           | 4     | 12         | ...   | ...       | ...                           |          |
| Febris              | 37          | 9     | 46         | ...   | ...       | ...                           |          |
| Rheumatismus        | 6           | 8     | 14         | ...   | ...       | ...                           |          |
| Venereal            | 23          | 18    | 41         | ...   | ...       | ...                           |          |
| Vermes              | ...         | 1     | 1          | ...   | ...       | ...                           |          |
| Anæmia              | ...         | 1     | 1          | ...   | ...       | ...                           |          |
| Phthisis pulmonalis | ...         | 1     | 1          | ...   | ...       | ...                           |          |
| Intemperance        | 2           | 1     | 3          | ...   | ...       | ...                           |          |
| Neuralgia           | 2           | 2     | 4          | ...   | ...       | ...                           |          |
| Otitis              | ...         | 1     | 1          | ...   | ...       | ...                           |          |
| Pericarditis        | 1           | 1     | 1          | 1     | ...       | ...                           |          |
| Aneurisma           | ...         | 1     | 1          | 1     | 1         | 1                             |          |
| Bronchitis          | 9           | 3     | 12         | ...   | ...       | ...                           |          |
| Pleuritis           | 2           | 1     | 2          | ...   | ...       | ...                           |          |
| Pneumonia           | 3           | 1     | 4          | ...   | ...       | ...                           |          |
| Dyspepsia           | 1           | 4     | 5          | ...   | ...       | ...                           |          |
| Anasarca            | 2           | ...   | 2          | ...   | ...       | ...                           |          |
| Obstipatio          | 6           | ...   | 6          | ...   | ...       | ...                           |          |
| Hæmorrhoids         | 2           | 6     | 8          | ...   | ...       | ...                           |          |
| Hepatitis           | 5           | 5     | 10         | ...   | ...       | ...                           |          |
| Splenitis           | ...         | 1     | 1          | ...   | ...       | ...                           |          |
| Nephritis           | 1           | ...   | 1          | ...   | ...       | ...                           |          |
| Orchitis N. G.      | ...         | 3     | 3          | ...   | ...       | ...                           |          |
| Arthritis           | 1           | 2     | 3          | ...   | ...       | ...                           |          |
| Phlegmon            | 4           | 3     | 7          | ...   | ...       | ...                           |          |
| Herpes              | 1           | ...   | 1          | ...   | ...       | ...                           |          |
| Fractura            | 3           | 1     | 4          | ...   | ...       | ...                           |          |
| Contusio            | 11          | 2     | 13         | ...   | ...       | ...                           |          |
| Vulnus incisum      | 2           | 4     | 6          | ...   | ...       | ...                           |          |
| Subluxatio          | 6           | 1     | 7          | ...   | ...       | ...                           |          |
| Accident            | ...         | 1     | ...        | ...   | 1         | Killed during a thunderstorm. |          |
| Total               | 143         | 2100  | 2242       | 4     |           |                               |          |

NOTES ON ARSENICAL POISONING.

BY E. BONAVIA, M.D.

I HAVE made *post mortem* inspections in several cases of arsenical poisoning, and have invariably found livid patches in the inner lining of the heart, more especially that of the left ventricle about the *columnæ carneæ*; so much so, that in cases of suspected poisoning, I always examine first the heart, and if I discover these patches, I invariably find arsenic in the stomach. The greater or less size and depth of colour of the patches appears to bear some proportion to the more or less extent and intensity of redness in the mucous membrane of the stomach.

On the 8th July last, I examined three bodies of men who died from arsenical poisoning. In two, the redness in the stomach was extensive, and the patches in the left ventricle of the heart of each very well marked. In the third, the inner lining of the stomach was only dotted here and there with red spots, and the patches in the heart, although quite visible, of a much less deep colour than in the other two. I found a considerable quantity of arsenic in the stomachs of all three, but in that of the third, the greater part was enveloped in a lump of *kheer*, (a mixture of milk, ground rice, and sugar,) the vehicle in which the poison was administered, which may account for the absence of more extensive appearances both in the stomach and heart.

I do not know whether in cases of poisoning from small doses of arsenic any marks in the heart would occur. When natives use arsenic for poisoning, they do it thoroughly, and all cases that came under my notice were those of death from large doses of the drug. I remember having read, when a student, in one of Audral's works, that arsenic was *one* of the causes of endocarditis, and it is very singular that Taylor in his book "On Poisons in relation to Medical Jurisprudence" (1848) rejects the idea of *post mortem* heart appearances being indicative of arsenical poisoning.

It is quite possible that in deaths from small quantities of arsenic, no heart appearances are found, as indeed, sometimes, although rarely, no stomach marks are met with. But as far as my experience goes, the patches in the heart are constant in cases of poisoning from large doses. In the above work, Taylor states, under article "Arsenic," as follows:—

*Page 321, Case I. Mother.—"The heart was healthy,"..... "although the mucous membrane of the stomach was in every part red and inflamed."*

*Page 322, Case II. Elder Child.—"The redness of the villous coat of stomach was of a vermillion hue;"..... "the other appearances (meaning heart, &c.) were similar to those in the mother."*

*Case III. Infant.—"The appearances were as in the foregoing cases, except that the villous coat of the stomach was in the highest state of inflammation, and, in the greater part of its extent, the redness was of the brightest colour."*

In page 325, under the head of *post mortem* appearances, he states:—

"The striking changes produced by arsenic are generally confined to the stomach and intestines."

In page 326, he says:—"Various morbid appearances are said to have been met with in the lungs, heart, brain, and urinary organs; but they do not appear to be characteristic of arsenical poisoning." This he repeats in page 64 of his "Medical Jurisprudence," 5th Edition.

It is evident that these heart marks have been noticed, although, strange to say, not sufficiently studied.

Pereira, in his "Elements of Materia Medica and Therapeutics," 4th Edition, Vol. I., p. 706, under the heading of "Morbid Appearances of the Vascular System" (from arsenical poisoning) says:—"The heart is mostly flabby, and it is asserted that on its inner surface (especially the *carneæ columnæ*, and

valves, particularly of the left side) is observed redness, sometimes diffused, sometimes in the form of spots, which penetrate a line in depth into the substance of the heart." There is no doubt whatever that the action of arsenic on the heart has a great deal to do with causing death, but how it acts on that organ is not very clear.

Taylor, in his book "On Poisons" before mentioned, although rejecting the connection of the *post mortem* heart marks with arsenical poisoning, fully admits the physiological action of the drug on the heart.

In page 323 he says:—"The remote influence of arsenic upon the heart is proved by the faintness and syncope which are so frequently met with in the progress of the case."

In my mind, I have little doubt that, in the three cases before quoted from Taylor's book, *viz.*, that of the Mother, Elder Child, and Infant in the stomachs of whom the redness was so marked, the livid patches in the hearts could scarcely have been absent. With regard to the rapidity with which arsenic acts on the heart, after being introduced into the stomach, Taylor states in page 322:—"In some of these rapid cases of death, especially in those of Mr. Foster (case 2) and that of Dr. Morland, it is evident from the symptoms that the brain and heart had become remotely affected within the very short period of two hours. It is therefore reasonable to infer that the poison had become absorbed, and that the theory of certain French toxicologists, who assign a period of several hours as absolutely necessary to the action of arsenic, is unsound. Either the theory is false, or the remote effects of arsenic may be produced independently of absorption!" I do not know why Taylor chose to put a note of admiration at the end of the above sentence. Evidently he thought it an absurdity that arsenic introduced into the stomach could act on the heart *independently* of absorption. There is, so to speak, telegraphic communication between all parts of the body, and there is no reason why, when a part is acted on *abnormally*, another distant part should not take on abnormal action by reflection, as we choose to call it, without the necessity of absorption of any of the abnormal agent. An irritant acting on the inner surface of the stomach can cause, telegraphically, abnormal action in the centres of the nervous system, and thence in *any* other organ. The remote action of arsenic may be electrical besides chemical. Some cases of poisoning by oxalic acid are on record, in which death took place in *three minutes* after introduction of the drug into the stomach; as if death were produced more by electric shock than by absorption and chemical action. As cases of poisoning from arsenic are very common in India, it would be very interesting, both with regard to Jurisprudence and to pure Science, if we could collect correct information as to the constancy of *post mortem* appearances in organs distant from the one immediately affected.

LUCKNOW, 16th August, 1866.

P. S.—The colour of the *post mortem* heart appearances, when well marked, resembles that of the liver.

#### IPECACUANHA IN DYSENTERY.

By N. JACKSON,

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As the action of ipecacuanha in dysentery is now under discussion in your paper, the following two cases, which have recently occurred in my practice, may prove interesting.

#### CASE I.

A. M., pure European, sanguine temperament, and of temperate habits, was attacked with dysentery. He did not apply to me in the first instance, but treated himself homœopathically with mercury.

When I first saw him he was passing pure mucus mixed with blood, and accompanied with great tenesmus and griping.

Half a drachm of ipecacuanha was ordered.

On visiting him the next day, he complained much of the sickness the medicine had produced. The dysenteric symptoms, however, were admitted to be relieved, but he could not be persuaded to continue the treatment. Subsequently, when getting worse daily under other treatment, he consented to resume that by ipecacuanha. This time a scruple was given, with the effect of producing vomiting and intense depression. The same dose was administered six times, and always with a similar effect. The improvement in this case was by no means rapid, although it was one of pure dysentery, and apparently one in which ipecacuanha should have acted with the best effect.

The vomiting was most persistent, and so troublesome as almost to necessitate the discontinuance of the treatment, and after three weeks a cure has not been thoroughly effected.

#### CASE II.

R. W., a Sub-engineer on board the *Nemesis*, of sanguine, lymphatic temperament, had been ill with dysentery for three months; had lost weight to the extent of  $2\frac{1}{2}$  stones. It was personally ascertained that he was passing pure mucus mixed with blood.

Half a drachm of ipecacuanha was administered, with the effect of producing considerable nausea; actual vomiting, however, did not take place. The medicine was continued six times with the best possible effect, a diarrhoeic condition of the dejections having been brought about in three days, and a solid feculent condition in 6; in ten days, under the use of koorches and nitric acid, a perfect cure was effected.

The results of the administration of ipecacuanha in these two cases are remarkably illustrative of the specific action of the drug, as in the first case where vomiting and depression to a great extent occurred, the relief afforded was tardy, whilst the cure effected in the second case was, considering the duration of the disease before coming under treatment, one of the most rapid and complete that has ever come under my notice.

BALASORE, August 10th, 1866.

#### EPIDEMIC SMALL-POX AND VACCINE PROTECTION.

By J. WILSON JOHNSTON, M.D.,

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It may seem eccentric to postulate that in the major portion of the Punjab vaccination has produced but an unappreciable effect; wary scrutiny, however, leads to the cardinal conclusion that no positive protective advance is being attained. The statistics of two districts declare only a mortal ratio of five per cent. to the debit of vaccination. Epidemic small-pox has made terrible havoc this year, raging as violently and fatally as if Jenner's immortal discovery, sixty-six years ago, was unheard of. One cannot recall too often that zymotic disease generators are ever in hypothetical existence, and only tarry for the favored moment of extreme sanitative neglect, which tends to determine specific decomposition of excrement (Simon).

Few of our cities are suitably scavenged; sweating fulzies contaminates the circum-ambient air; drainage is a *vox et præterea nihil*. Is it passing strange, then, since no animal contagion is so strong and sure as that of small-pox, none that operates at so great a distance (Watson), that this loathsome malady still