CASES OF POISONING BY DATURA STRAMONIUM.

By JOHN LE GAY BREWESTON, M.D., EDIN.
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EARLY in the afternoon of the 14th of October I was summoned to see two children of the respective ages of five and three years, who were described by the messenger as having suddenly "gone out of their heads." They had been picked up in the street in this state, and carried into the house of the stranger.

I immediately recognised the symptoms of poisoning by one of the *Solanææ*. The face was flushed; the eyes were staring and brilliant, and the pupil was fixed and excessively dilated. There was complete loss of vision, imperfect control over voluntary muscular action, and violent delirium, which was alternately mirthful, furious, or dolorous, directed to some imaginary source of pleasure or repugnance, and accompanied with corresponding gesticulations. The tongue was occasionally thrust from the mouth, and the throat, which appeared to be the only sensible seat of discomfort, was grasped and torn by the hands, as if the patients imagined it to be oppressed by some foreign body. Their attention could not be aroused to anything which was said, and they resisted all attempts at interference with piteous cries or violent struggling.

I suspected the poison of belladonna, and caused search to be made in the neighbourhood for the berries of that plant, administering emetic doses of sulphate of zinc in the mean time. The patients exhibited apparent reluctance to swallow, keeping the jaws rigidly closed, and resisting the administration of the remedy with their hands, though they were not sufficiently conscious properly to direct such efforts. The stomach was slow to act, but after considerable perseverance vomiting was induced. Numerous seeds of *datura* were detected in the ejecta; indeed a much greater quantity than has been known to cause death.*

It seemed, from the search which had been made, that the poisonous herb had been thrown out from a neighbouring garden, and several emptied and divided thorn-apples were discovered. A third child confessed to having eaten a smaller quantity of the seeds, and she was slightly though not alarmingly affected. The poison having been retained four or five hours when vomiting took place, a sharp aperient dose was administered, which, after some hours' delay, acted moderately. Cold was from the first assiduously applied to the head.

At five o'clock, P.M., four hours from my being first called in, though the symptoms were somewhat abated, vision and consciousness to external things were not restored, and the delirium returned at intervals with nearly all its previous violence. The parents of the children, who were now present, were not noticed by them, save occasionally to be embraced or attacked for some imaginary benefit or injury. I subjected the

patients to a shower-bath, and applied a blister to the back of the neck.

At nine vision was partially restored in the elder child, and the *hallucinations* were in a great measure supplanted by *illusions*, which indicated some return of consciousness.

At eleven the delirium had become of a muttering type; the patients were drowsy, and displayed a comatose tendency. In the elder child *the pupil, though contracted in the dark, gradually dilated to the stimulus of light*. Sinapisms were now applied to the feet, calves, &c. Alternate doses of strong tea and ammonia were given; the face was occasionally sprinkled with water, and other means were used to prevent sleep.

At five o'clock the ensuing morning, the victims were allowed to sleep, and both awoke before noon, perfectly conscious and well.

On the morning of the third day, the body of the younger child became covered with a small papular eruption, which continued for several days, accompanied with fever.

The effects of the poison were *purely nervous*. The *cerebrum* was first affected; hence arose perverted vision, illusive delirium, and, as consciousness diminished, pure hallucinations. The derangement next attacked the *cerebellum*, as was shewn in the loss of control over voluntary muscular action.

Finally, the *medulla spinalis* was implicated, as was evinced by the spasmodic motions of the extremities, &c. In each organ, the first effect seemed to be *stimulation*. This was followed by *pervertion*, and lastly, by *depression*, and threatened *extinction* of the function.

It is then incorrect, with such evidence as the above recorded symptoms present, to class *datura* among the *narcotico-irritant* poisons. This term has been vaguely applied by toxicologists to several poisons which are in no proper sense of the term irritants; and which only differ from the *narcotics proper*, either in affecting more peculiarly the spinal cord, or in the stimulating effects—the first result of all narcotics—being more marked or of longer continuance than the narcotism which follows. Death may even occur from over stimulation, before the depression sets in. I have, for instance, poisoned animals with Indian hemp, some of which have died in a state approaching to *tetanus*, while others have survived this stage to perish by *coma*, or, at least, by *nervous depression*. It is probable that a poisonous dose of *strychnia*, if it did not first kill by over-excitation of the spinal cord, would eventually do so, like *aconite*, by depression of that organ.

ON THE

ABSENCE OF PHOSPHATES IN THE URINE OF THE HERBIVORA.

By C. R. BREE, Esq., STOWMARKET.

THE recent analyses of Bousinghault, Von Bibra, Ausbücher, &c., have decided that there are no phosphates in the urine of the horse or ox. This remark-

* See case recorded by Dr. Thompson.

able fact is alluded to by Liebig, in his "Letters on Chemistry," p. 403-4; and he attempts to account for it by stating that the intestines perform, in those animals, the functions of the kidneys, the phosphates being cast off among the solid fæces. Liebig further draws an analogy between this supposed function of the intestines of the herbivora and the diseased action in diarrhoea in the human subject.

I wish to call the attention of chemists and physiologists to these statements, as it is evident they have a most important bearing upon the whole subject of excretion, in its most extended sense, as elucidated by the modern investigations of chemistry and the microscope.

If the analyses of the celebrated men above mentioned are correct, we have presented to us the fact, that the phosphoric acid of the brain, bones, and protein compounds of the herbivora, which are thrown off by the constant waste going on in the system of these animals, is excreted, not by the depurating action of the kidney, but by the intestinal tube; and this not by an abnormal exosmosis, as in diarrhoea, cholera, mælæna, &c., but, by a clear act of organic selection, which I believe I may state has no parallel in physiological science. *Qui facit per alium, facit per se.* If the intestines depurate the blood in the ruminantia and the equidæ, why not in the pachydermata (as the pig), in the rodentia (as the hare), or even in the omnivora (as man)? I need not point out to the comparative anatomist that the equidæ are placed between the pachyderms and rodents; and yet there are phosphates found abundantly in the urine of both the pig and the hare. We must not look for an explanation of this anomaly, then, in anatomical relation, for the ruminant is much further removed from the equid than the latter is from the pachyderm or the rodent; in fact, equidæ are placed by Cuvier among the pachydermata. Neither can we find an explanation in the nature of the food; for the question is not how the phosphoric acid gets into the system, (and get in we well know it must, and that in the ordinary process of chylicification and absorption,) but the difficulty is, how it is removed from the blood so as to get into the fæces, and not appear at all in the urine. If it is simply by exosmosis, then the process may take place as well in the human subject; so that when we find no phosphates in the urine, abundance may have passed off from the blood by the intestines.

Thus all our recent notions of the chemical pathology of the urine would be upset. If, again, the intestinal tube in the herbivora acts as an organ of excretion to the blood, in the same sense as the kidney does, then must our notions of the physiology of secretion undergo great modification.

In the hope that some of our physiologists may throw light upon this interesting point I submit it to the notice of our Association.

STRONGYLUS SUIS IN THE BRONCHIAL TUBES OF A PIG.

By C. R. BREE, Esq, STOWMARKET.

A few weeks ago, when examining the lungs of a recently-killed pig, I found the bronchial tubes infested with vast numbers of entozoa, which Professor Owen, to whom I sent the specimen, informs me are the rare *strongylus suis* of Rudolphi (Synopsis Entozonum, p. 36, No. xxxviii.)

This parasite was about three quarters of an inch to one inch in length, and was attached to the angles of division of the bronchia through the whole lung. Having placed one of them in a watch-glass, I was fortunate enough to witness, through the microscope, the exclusion of vast numbers of ova from the female. I could not satisfactorily make out whether I had both male and female specimens coiled up and attached to each other, or only one female. At a few lines distant, however, from the extremity of one, there was a process formed in the shape of an $\angle$, from which I observed the slow and gradual emission of a diaphanous tube, filled with minute circular flattened discs, of a dark colour with a pellucid centre. As this tube emerged from the vulva, I observed that it increased in thickness, and contained more ova in a line. These ova appeared to have a slight motion. Several of these tubes, measuring about half the length of the parent parasite were emitted.

I made these observations about eleven A.M. When I again placed the glass under the microscope, in the evening at six o'clock, I was astonished to find a vast mass of young fry, struggling and wriggling about with great activity. Some had escaped from the hyaline tubes, but the greater number were struggling to get out. I could form no idea of the numbers—they were countless. They continued active until I went to bed; and failing to leave sufficient water in the watch-glass, they were all dried up in the morning.

Stowmarket, 1851.

CASE OF POISONING BY THE BI-CHROMATE OF POTASH.

By JOHN WICKENS WEST, Esq., POOLE.

VERY lately I was requested to visit a professional friend residing in Poole, who had inadvertently tasted a solution of the bi-chromate of potash. The quantity he swallowed did not exceed a teaspoonful, if it were as much. He discovered his mistake shortly afterwards, but did not experience any ill effects until about half an hour, when he felt sick, his countenance became pale, and he became quite prostrate. He being at a midwifery case at the time, was compelled to leave, and requested me to attend on his behalf. Before the