A Course of Lectures ON URINE, URINARY DEPOSITS, AND CALCULI.

DELIVERED AT THE PATHOLOGICAL LABORATORY,
DURING THE SESSION 1857-58.

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LECTURE XI.

IV.—THIRD CLASS OF URINARY DEPOSITS.

[Concluded from p. 990.]

ENTOZOA.

Echinococci have been passed from hydatid cysts occupying the kidney, and have been found in the urine. The hooklets of these creatures are very characteristic, and would be found in the urinary deposit. Mr. Simon refers to a case in which small cysts were passed entire. In these rare cases, the symptoms of a tumour connected with the kidney are present. At length the cyst bursts; the fluid with echinococci is discharged

50

Fig. 50.—*Echinococci hominis* in different positions.

51

Fig. 51.—Claws or hooklets of echinococci.

in the urine; and perhaps some fragments of the cyst also escape. These and the hooklets of the echinococci are perfectly characteristic, and cannot be mistaken for anything else. (Dr. Sieveking, *Lancet*, 1853; Mr. Simon, *Lancet*, 1853; *Glasgow Medical Journal*, 1856; *Med. Times and Gazette*, 1855; also Dr. Thudichum's treatise, from which I have extracted these references. For the Characters of *Echinococci*, see *The Microscope in Practical Medicine*, 2nd ed., p. 361.)

Diplosoma Crenata. The most remarkable case on record in which worms were passed from the urinary bladder, is one which is reported by Dr. Arthur Farre, who has made some most careful dissections of the worm, and observations on the anatomy of the ova. (*Archives of Medicine*, vol. i, p. 290.) This is the case recorded by Mr. Lawrence in vol. ii of the *Med.-Chir. Trans.* in the year 1811. It is the only one on record. Dr. Farre describes the general characters of the worm in the article "Worms", *Library of Medicine*, vol. v, p. 241. Rudolphi, on insufficient evidence, declared that these worms were merely lymphatic concretions; and in consequence this interesting and authentic case has not yet been properly noticed by writers on parasites. From the recent reinvestigation of the whole subject, there can be no doubt that Rudolphi was wrong in his conclusions, and that these were real sterelminthous worms. In his paper above referred to, Dr. Farre at once sets all doubt on the question at rest. He now describes the minute anatomy of the worm and the characters of the ova.

The patient was a woman twenty-four years of age; and, during the course of two or three months, she passed as many as from eight hundred to a thousand worms. The worms were of two different kinds. The first form, which varied from four

to six inches in length, were passed in great number. The other kind was smaller, varying from half an inch to an inch in length. These worms were passed on one occasion only; they lived in the urine for three days, and moved very briskly. They belong to the genus *spiroptera*, and Rudolphi gives to them the name of *spiroptera hominis*. The larger worms have been named by Dr. Farre, from their body being double, *diplosoma crenata*. Fig. 52 represents the general characters of the

Fig. 52.—*Diplosoma crenata* (Farre). One of the largest and most perfect specimens of the entozoon, half the natural size. In the centre, at the upper part of the figure, is the sharp twist or kink, where the body is most contracted. From this point each half gradually enlarges to a certain distance, but tapers again towards either extremity; the right half terminating, in this specimen, in a point, the left furnished with a lateral membranous flap. This half of the body shows the abdominal groove, and double crenate border. The right half, being spirally twisted, exhibits successive portions of the dorsal, lateral, and abdominal surfaces. This twisting is observable in many specimens. Towards the extremity of this half, numerous fibrous cross-bands are shown.

worm, one-half the natural size. The minute structure of this creature is very peculiar, and has been accurately investigated by Dr. Farre, who has illustrated his remarks with numerous drawings. There can be no doubt that, in this unique case, two new forms of intestinal worms, never seen before or since, were passed from the bladder in considerable number. For the details of the case, and for the account of the structure of the worms, I must refer you to Dr. Farre's original paper in the *Archives*.

Dactylius Aculeatus. The only case on record in which this parasite has been found in connexion with the urinary organs, is that of a girl aged five years, who was under the care of Mr. Drake. Several worms were voided; and some of them were carefully examined by Mr. Curling, whose memoir, with drawings of the worm, is published in the twenty-second volume of the *Transactions of the Medico-Chirurgical Society*. The female was four-fifths, and the male only two-fifths of an inch in length. The tegument was armed with spines, occurring in clusters. The worms exhibited active movements; and, if left in the urine, they lived for two or three days. There were no symptoms in the case pointing to any derangement of the urinary organs. They were first noticed in the urine on May 26th, 1830, and on several occasions between this date and June 11th, after which no more worms were passed. These entozoa were, therefore, only found during a period of sixteen days, and they were not present each day.

Strongylus Gigas. This parasite appears to have been found in the human kidney on one occasion, although Küchenmeister comes to the conclusion that it has never been met with. The specimen is preserved in the College of Surgeons. It is occasionally found in the lower animals. A few years since, I obtained three beautiful specimens of the worm, two males and one female, which were found coiled up in the kidney of a large dog. The female was about fifteen inches in length, and rather less than half an inch in diameter. The skin was of a very bright blood-red colour, mottled with black. The males were about nine inches long, of a reddish brown colour, and about a quarter of an inch in diameter. The kidney was reduced to a mere fibrous cyst, rather larger than the organ on the opposite side; and the three entozoa were coiled up together, and occupied its entire cavity. The ureter was pervious all over its surface, and imbedded in the mucus of the

bladder were multitudes of ova. Ova were passed in great number in the urine of this dog. The kidney and the female worm are preserved, and still in my possession.

Distoma Hamatobum have been found in the bladder, ureters, and pelvis of kidney, as well as in the veins of the intestine, in the portal veins, small intestine, gall-bladder, etc. Griesinger states that this parasite is very abundant in Egypt. The eggs of the worm were imbedded in the mucous membrane of the bladder, which much congested and ecchymosed in these situations. The worms themselves appear to have been found in the vessels. The eggs often form the nuclei of small deposits of uric acid. They have been found adhering to the mucous membrane of the bladder, kidneys, and ureter.

Other Worms passed from the Urinary Organs. A case is related by Raisin in which a worm three inches long was passed by a man fifty years old. Moublet alludes to the case of a boy aged 10, who voided four worms from four to five inches long, accompanied by pus. Other instances are recorded, but these do not seem to be well authenticated.

Parasites and other Animals of accidental presence in Urine. Intestinal worms are sometimes passed into the vessel containing the urine, and the patient not unfrequently affirms that they came from the bladder. Various species of acaria are frequently met with in urine. It need hardly be said they are not found in the urinary organs. Insects and their larvæ are from time to time found in urine. Patients will positively assert that larvæ of the common flesh-fly have been passed through the urethra. The insect larvæ can always be at once distinguished by the presence of tracheæ in every part of their body.

Elongated Clots of Fibrine or of Blood are occasionally mistaken for intestinal worms. Microscopical examination will enable any one at once to distinguish them.

This brings us to the conclusion of the subject of urinary deposits. In my next lecture, I shall draw your attention to the most important characters of some of the principal calculi; and we shall also consider the causes which influence the deposition of these concretions from the urine, and the plans which have been proposed for their solution.

Original Communications.

OBSERVATIONS ON THE TREATMENT OF ASTHMA.

By T. L. PRIDHAM, Esq., Surgeon, Bideford, North Devon.

[Concluded from page 898.]

HAVING in my previous papers given the result of my treatment of *dyspeptic asthma*, and having endeavoured to prove how completely *this* form of the disease is under the control of the treatment which I have adopted, I shall now proceed to notice the disease of asthma, the *exciting cause* being the effects of atmospheric influence on those who are predisposed by hereditary taint to the disease. I would first remark that, according to my experience, peculiarities in the atmosphere, in certain localities, acting on the circulating fluid through the medium of the lungs, are a much more frequent cause of continued attacks of the disease than is generally believed; and many persons remain confirmed asthmatics because they have not been able, by repeated changes of air, to find out that condition of the atmosphere which is most congenial to them.

CASE XVI. It is now about a year and a-half since that I happened to meet a medical man who had retired from practice, having followed his profession with considerable repute in the neighbourhood of London. He (after hearing my remarks on the subject of the treatment of asthma) said, "a nephew of mine, who lives in the neighbourhood of Richmond, is a perfect martyr to the disease. No treatment appears to relieve him. I will send for him, and place him under your care." Shortly after this, a bright, intelligent-looking boy, about sixteen years of age, waited on me. His appearance did not indicate, in any very marked degree, that he was the sufferer who had been described to me; however, on inquiry I learned as follows.

He had suffered from early infancy from difficulty of breathing and cough. The intervals between severe attacks

were of about ten days duration; they left such debilitating effects that his studies and enjoyments were quite interrupted; and altogether he had a miserable life of suffering. His tongue was clean; his pulse normal; his complexion clear; the chest slightly emphysematous; at the time I first saw him he was perfectly free from asthma. I did not, under these circumstances, prescribe anything further than a few regulations as to diet, requesting to be sent for when an attack occurred. At the end of a fortnight he called again, and informed me he was perfectly free, more so than he ever remembered. Week after week and month after month came, and no attack appeared. He was now so well that he ate and drank what he pleased, exposed himself to all kinds of weather, used an amazing amount of exercise in shooting, fishing, and walking, and gained considerably in strength and flesh; in fact, he was in perfect health, and he returned home without ever taking one single dose of medicine. His father, who is a physician of some eminence, was delighted at the accounts which he received of his son, and was in hopes that by the change a cure had been effected. His freedom from asthma evidently depended on the atmosphere in which he had lived for several months; for his attacks quickly recurred with violence on his return home.

I have since made inquiry whether any traces of the disease had manifested themselves in other members of his family. The result has elicited, that an uncle was the victim of asthma; a peculiar and interesting history was given me of him, which is, I think, worth relating.

He was a man of considerable fortune, and lived in one of the fashionable squares in London, and he was, moreover, a member of Parliament; but all his riches and all his comforts could not keep at bay the enemy which constantly assailed him. It so happened that one occasion he was on his way to the House when business called him through some of the slums of Westminster, and whilst in this smoky locality, he all at once perceived that he breathed with perfect freedom. No sooner, however, did he approach the more open space near the House, than he was violently attacked with a fit of his distressing complaint. He mentioned what had occurred to his medical attendant, who advised him to make repeated excursions in the direction where he had appeared to obtain relief. The result was invariably the same. He was now determined to put the influence of the atmosphere more completely to the test; he accordingly directed his servant to bespeak a bed for him at a pothouse in the immediate neighbourhood, taking care that clean and well-aired blankets and hedding should be provided. In this pothouse he slept, and slept all night, a circumstance which had not happened for years. For several nights in succession he resorted to the same quarters, and was thus satisfied that he had found the long-sought remedy. The result was that he purchased the pothouse, fitted it up comfortably, and there lived to the end of his days, perfectly free from attacks of asthma, within the precincts of the slums and smoke of Westminster. A great aunt also was afflicted with this disease.

CASE XVII. The son of a clergyman, who was born in a parish about fifteen miles to the west of this town (whose father was a martyr to asthma, from the effects of which he died), was in early infancy attacked with oppression and difficulty of breathing, which was considered by his medical attendant as the forerunner of speedy dissolution. It happened that the child was removed for a change of air to the house of his uncle, some ten miles off, when, to the surprise of the mother and nurse, the child's breathing became perfectly natural; and so it remained until it was again removed to its native air and home. This experiment was repeatedly tried, and always with the same result; in fact, his native air appeared to induce distressed breathing and cough, more than any other during the whole early period of the child's existence. At length the time came for school education, and the boy was sent to Eton, having passed the usual diseases of infancy with as little distress and anxiety to his parents as most children. What makes this case remarkable is that during his stay at Eton he was considered one of the most active boys out of seven hundred; for he was one of the fastest runners, one of the best cricketers, and pulled the best oar in the whole school, proving that infantile diseases had produced no organic changes in the respiratory organs; neither had the continued difficulty of breathing left any traces of disease; it is almost needless to say, that he was perfectly free from his hereditary complaint as long as he remained at school.

CASE XVIII. I now revert to Case xv, which I recorded in