A CASE
OF
DISEASED TESTICLE,
ACCOMPANIED WITH
DISEASE OF THE LUNGS AND BRAIN,
AND TERMINATING FATALLY;
BY HENRY EARLE, Esq.
COMMUNICATED BY
WILLIAM LAWRENCE, Esq.
TO WHICH IS ADDED,
A NOTE,
BY MR. LAWRENCE,
CONTAINING SOME PARTICULARS OF THE HISTORIES
AND DISSECTIONS OF FOUR CASES.

Read February 3, 1812.

THOMAS DENNIE, aged one year and nine months, was brought to me on the 10th of June 1811, for my opinion on a disease in his left testicle. The following is the history which his mother gave me of its origin and progress. When the child was about a year old, he received a pinch from his sister who was nursing him; he complained a good deal at the time, but not much attention was paid to it. About a fortnight from this time,

his mother first perceived that the left testicle was rather larger than the right. From this period it gradually encreased until it attained the bulk which it exhibited when she came to consult me. She had applied to several surgeons, who recommended leeches, poultices, mercurial ointment, &c. &c. without producing any visible amendment. The case had been twice mistaken for a hydrocele, and the testicle had been punctured with a trochar, but no fluid followed. Very little inflammation succeeded the operations, and the disease did not appear to have been materially aggravated by them. At the time when I saw the child, his testicle was rather larger than a goose-egg, and, when unsupported, reached to the internal condyle of the femur. It was of an oval figure, with a regular smooth surface, and when pressed had an elastic feel, so as to produce the sensation of a fluid contained in a cyst: so deceptive was the feel, that a gentleman, who has had most extensive practice in the treatment of hydrocele, pronounced it without hesitation to be a case of that description. It was not, however, in the slightest degree diaphanous; and at the same time, was much heavier than a similar bulk of water. No testicle or epididymis could be traced at the posterior or inferior part of the tumor. The child had a most unhealthy aspect; his skin was of a greenish yellow colour, and bedewed with a clammy moisture; his muscles flaccid and diminished in size; his head was large and prominent in front, his eyes heavy, and pupil dilated, the iris being of

such an unusually dark colour, as to be with difficulty distinguished from the pupil. His respiration was rather anxious; he was troubled with cough and had a frequent hard pulse. The abdomen was large and tense, and he was habitually costive. I ordered him Hydrargyri submuriatis gr. iij. Jalapæ gr. vj. omni alternâ nocte, and a lotion consisting of Liquoris ammoniæ acetatis, aquæ fontanæ ā ā ʒ iv. to be constantly applied to the part during the day, and a bread and water poultice at night. He continued the use of these medicines for a week, without any alteration in the state of the testicle, his cough was rather better, and his abdomen was softer. As the disease had existed for nine months, and had resisted all applications, I did not think that any good would arise from prosecuting these measures, and much evil might be expected from the delay which they would necessarily occasion. I therefore thought it my duty to propose an operation, although from the unhealthy appearance of the child, and the unfortunate result of similar cases, I was not very sanguine of ultimate success; still however I was led to entertain some hope from the circumstance of being able to trace the spermatic cord distinct and free from disease, for nearly an inch above the tumor, and from the inguinal glands being perfectly healthy and natural.

On the 22d I performed the operation: after laying bare the tumor in its whole extent, I passed a needle and ligature round the artery, close to the

ring of the external oblique, and then divided the cord, in which there was no disposition to retract. The rest of the operation was accomplished in the usual manner. The tumor consisted of a pulpy greyish mass, in which no vestige of the original structure remained; after washing it for some time, the water became turbid, in consequence of part of the mass, consisting of matter resembling brain in a state of putrefaction, being dissolved. The cut surface was uneven and fibrous in appearance, like sloughs or irregularly deposited coagulable lymph. The disease did not extend up the cord; the artery was very large, and the corpus pampyniforme much encreased in size. The nature of the complaint was evidently the same as has been described under the several names of pulpy testicle, medullary sarcoma, and fungus hæmatodes. Nothing worthy of remark occurred during the after treatment, the wound granulated from its whole surface, and healed very slowly, frequently requiring to be stimulated with red precipitate or the nitrate of silver, &c. In six weeks it was perfectly cicatrized. During this time he took the following medicines.

℞ *Liquoris Hydrargyri Oxymuriatis* ʒ j.

Tincturæ Cinchonæ ʒ j.

Infusi Quassiæ vj. M. ft. mistura.

Capiat cochlearia tria majora bis quotidie.

℞ *Hydrargyri Submuriatis* gr. ij.

Rhei Palmati gr. x.

Zingiberis gr. x. M. ft. pulvis tertiâ quâvis nocte sumendus.

Under this plan of treatment the health gradually improved. His skin was more natural, and he had even some colour in his face; he was more lively, his bowels acted regularly, and his abdomen was smaller and much softer. Indeed he was so much better in every respect, that I hoped his cure would be permanent. About the 25th of August, I ceased to attend him, and recommended his being sent into the country. I substituted the *Haustus Gentianæ cum Senna Ph. S. Barb.* for the mixture containing the muriate of mercury; and six grains of *Hydrargyrus cum Cretâ* for the calomel, and enjoined a strict attention to his diet.

I saw nothing of the child from this time until the 12th of November, when his mother again brought him to me. She had not been able to send him into the country, and had discontinued the use of the medicines soon after I ceased to attend him. She told me he had continued well in every respect until the end of September, when, to use her expression, "he again began to fall off." He was now much worse than when I first attended him, all his bad symptoms having returned with aggravation. He was very prone to sleep and peevish when roused. He was constantly desirous of resting his head, which was evidently increased in size, although all the sutures were closed, and frequently carried his hands there in his sleep. He made a constant moaning querulous noise, and was very averse to being moved. His pupils were

dilated, but sensible of the impression of a strong light. His respiration I could not observe, as he always cried when I approached him. His pulse was frequent and irregular; his abdomen full, and bowels constipated; and he had disinclination for food. I immediately suspected that the same diseased action was begun in the brain, which had existed in the testicle, and foretold the unhappy termination of the case. I ordered him hydrargyri submuriatis gr. v. jalapæ gr. x. This was repeated twice before it operated, it then produced several copious fetid dark-coloured stools. The following day (the 13th) leeches were applied to his temples, and a seton was cut in the nape of his neck. Two grains of the submuriate of mercury, and six of extract of colocynth, were directed to be taken night and morning. On the 14th he was rather more lively; the leeches and medicine were ordered to be repeated. 15th. He was not so well, was very prone to sleep, and had slight strabismus. I directed his mother to rub a drachm of mercurial ointment into his body night and morning, and to continue his pills as before. The seton was poulticed, and was beginning to discharge. I did not see him again before the 18th, when no material change had taken place. His mother had been ill, and had not rubbed in the ointment above twice. I desired her to bring him to the hospital the following day, and promised to procure his admission, as I was very anxious to watch the progress of the case. She neglected to do this, and as she

had changed her place of abode I was not able to find her out, and did not see him till the 28th. The disease had made rapid progress during the ten days. The head was much enlarged, and the veins of the scalp were very turgid and increased in size. His pupils were dilated, and his countenance expressive of great anxiety. He was still sensible, and the moment I entered the room he cried and clung to his mother, as he was wont to do ever since the operation. His lower extremities were now paralysed, and he passed his excrements involuntarily. His pulse was slow and irregular, with some degree of fulness. His mother said that she had rubbed in the ointment eight times, when his mouth became affected; that his bowels had acted regularly every day; that on the 25th he began to lose the use of his legs, which symptom had gradually increased until all below the pelvis was palsied. He had passed a small calculus of lithic acid the day before. In this hopeless state it was useless to attempt any thing further. I saw him early the following morning. He was then convulsed in the muscles of his face and eyes, which were in a state of constant tremulous motion, and wide open. His upper extremities and all the muscles of his trunk were paralysed. His respiration was difficult, and much impeded by a collection of mucus in his throat. His pulse was too rapid to be numbered. At eight o'clock that night he died, and the following morning I examined his body.

Appearances on Dissection.

On removing the calvarium, nothing particular presented itself in the appearance of the dura mater. On slitting up the longitudinal sinus, the glandulæ Pacchioni were found diseased, having an appearance of grumous blood. After raising the dura mater, the convolutions of the brain were so much flattened as completely to obscure the intervening sulci, and to give the cerebrum an uniform even surface. The vessels of the pia mater were particularly void of blood. In the anterior lobe of the right hemisphere, a large tumor presented itself immediately beneath the arachnoid membrane; its surface was of a dusky red colour, and was rather rough. Two other tumors were distinctly felt in the substance of the brain, one in the posterior lobe of the right, the other in that of the left hemisphere, previous to any section being made. On cutting through the substance on a level with the corpus callosum, four more tumors were exposed to view and the three former were divided. The largest was of the size of an orange, the smallest as big as a chesnut. They were of a very firm consistence, of a dusky red colour, with streaks of white interspersed through the substance. One of them was of a darker colour on its exterior surface, having more the appearance of a firm coagulum of venous blood. The surrounding cerebral substance was remarkably soft and pulpy, and had a peculiar yellow tinge, which was not

destroyed by letting water run over it. So loosely were these tumors connected with the substance of the brain, that they were with difficulty preserved in their situation. The ventricles were healthy, and plexus choroides pale and void of blood. The cerebellum was quite free from disease, the medulla oblongata remarkably firm, and its processes very strongly marked. On opening the thorax, numerous large tubercles were found in the substance of the lungs. In some places they occupied the whole thickness from one surface to the other. When viewed externally through the serous membrane of the lungs, they had a greyish white appearance, and were irregularly radiated at their circumference. When pressed, they had a firm inelastic feel. On being cut into, they exhibited a close even texture, very dissimilar to that of the testicle; when squeezed, a small quantity of a whitish fluid was pressed out. On tearing one of them, it had a fibrous appearance like a firm brain when torn or dissected with the handle of a scalpel. There was nothing like a capsule to any of them, they were contained in the substance of the lungs, and their edges were not well defined. The bronchial glands had taken on the same diseased action, and were prodigiously enlarged, their internal structure was very analogous to the testicle, though they were of a firmer texture, and were not elastic to the touch previous to being cut into. Not much disease was found in the abdomen. The mesenteric glands were enlarged, but when

cut into did not exhibit any diseased structure. A chain of enlarged glands was traced on the side from whence the testicle had been extirpated, running by the side of the aorta, and extending from the pelvis to the diaphragm. The intestines were much distended with flatus, but not unhealthy in their appearance. The right kidney was enlarged, and its ureter increased in diameter, by the recent passage of a calculus.

I fear I shall incur the charge of prolixity in the statement of the former part of this case, as I am fully aware that a pulpy testicle is by no means an unusual occurrence. It will, I trust, be excused, as the necessary prelude to the interesting dissection which the termination of the case afforded. Although this is not a very rare disease in the testis, it appears that its diagnostic symptoms are not very well defined, nor its nature generally known, as many cases are on record where surgeons of great and deserved reputation have inadvertently plunged their trochars into the substance of the tumor. Fortunately, no material injury is likely to accrue to the patient from such an operation; but the surgeon will be liable to much censure for his mistake. It is certainly difficult to determine the nature of some cases; but there are generally sufficient characteristic marks to enable a practitioner to form an accurate judgment. The regular oval figure, the peculiar elastic feel, and total want of transparency ought certainly to raise

suspensions in a person's mind, which should render him cautious in giving his opinion. Under these circumstances, no man should attempt to puncture the tumor without being fully prepared to follow up the operation, by removing the testicle in the event of there being no collection of fluid; but any one who has been in the habit of comparing the two diseases, will find much difference, even in the sensation imparted to his touch. To say in what this difference consists, I will not attempt, as it is almost impossible to express in words those nice powers of discrimination which can only be gained by experience. An attention to the history of the case, and to the state of health, which always suffers more or less, will be of much assistance in forming an opinion. The term fungus hæmatodes has been applied to this disease, but upon what principle I am at a loss to determine, as there does not appear to be any disposition to the production of fungus; nor any oozing of blood when it is wounded. What the natural termination of the disease would be, supposing it to exist alone in the testicle, has not, as far as I know, been yet determined. It generally spreads to parts essential to life, and destroys before the ulcerative stage has commenced. The term medullary sarcoma is perhaps equally exceptionable, as it does not convey a correct idea of the disease in different parts of the body. In the brain, for instance, where we have the most favourable opportunity of making the comparison,

it bears no analogy to the surrounding medullary matter. It is much easier to object than to amend, and it may be wrong to find fault with a term when we have not any better to offer ; but the first step to improvement is the exposition of error. Any term founded on the appearance of this disease in any one part, must necessarily convey a wrong impression of its nature in other parts, as it is certainly much modified by its situation. I have considered this case as worthy of being recorded, as it shows in a striking manner to what extent a disease may reach in so important an organ as the brain, without materially deranging its functions, provided its progress be gradual. This is the more to be wondered at, when we consider that a total suspension of its powers, and even death, will sometimes ensue from so slight a derangement of its structure, as almost to elude the investigations of the anatomist. I had occasion to make this same remark about two years since, in a case of large abscess in the brain, which was not at all suspected during life. An account of this case was published in No. 132. of the Medical and Physical Journal. I consider the termination of this case as a good illustration of the gradual loss of power in the brain, when labouring under the effects of disease. It is first incapable of transmitting its influence to the extreme parts of the body ; as the disease advances, its powers gradually diminish, and the extent of its influence diminishes in proportion, those parts nearest the brain being last

affected. It is probable that a less morbid state of brain may produce a numbness, or even palsy, of the lower extremities. This analogy between the centre of the nervous and sanguiferous systems, has not been sufficiently noticed by nosologists, and may perhaps assist in the explanation of many phenomena in diseases hitherto involved in obscurity. It has been a question, whether this disease spreads by absorption, or is constitutional. The present instance strongly favours the latter opinion. Its appearance at such remote parts, where those intervening were so slightly affected, proves that it depends on the same peculiarity of constitution, and prevalence of the same diseased action. Since writing the above, Mr. Hodgson, who was present at the dissection, has favoured me with a very accurate representation of the appearance of one of the tumors in the brain. Figure I. represents a section of the tumor, shewing the looseness of its connection with the brain, and the bloody and mottled appearance of its structure. Figure II. represents the appearance of the tumor in the surface of the brain covered by pia mater.

Remarks by Mr. Lawrence.

The occurrence of disease in several organs of the same individual, is a point of so much importance in pathology, and the combination of affections of the internal parts with external disorders

is of so much practical consequence, particularly in influencing our judgment concerning the propriety of operations, and in leading to a just prognosis, that I take the liberty of offering to the Society a few particulars of four cases, which have come under my observation within a very short time. They will form a proper sequel to the preceding very interesting narrative of Mr. Earle.

CASE I.—M. Lambertini, an Italian, about thirty-five years of age, perceived a hard tumor in the right breast about fifteen months before his death. When this had existed about twelve months, it ulcerated, and a fungus shot up. I saw him about three weeks before his death, at which time there was an ulcerated and fungous surface of about two inches in circumference, on the right of the right nipple, which was sound. One considerable protuberance in this surface was ulcerated, nearly smooth and florid: the rest was irregular and tuberculated, and covered mostly with an unhealthy cuticle. The discharge was not considerable, and rather offensive: sometimes it bled slightly. A hard mass occupied nearly the whole anterior part of the right half of the chest: the skin was hard and fixed, and small tubercles were felt under it for some distance round the fungous part. The swelling and the hard state of the skin reached into and filled the axilla; it extended up to the clavicle, as far as the middle of the sternum, and below the edge of the pectoralis major muscle. Hard tumors

were felt above the clavicle ; and the axillary glands on the opposite side of the body were enlarged. The arm began to be oedematous, and respiration was affected ; he was also remarkably hoarse. The pulse was not affected, the appetite very good, and little, if any, emaciation had occurred. The oedema and difficulty of breathing gradually increased, debility came on, and death took place without any particular change in the local disease, which had at no time been attended with much pain. The carbonate of iron was used both externally and internally : the discharge became less offensive, and the bowels very costive under its employment.

A very considerable mass of exceedingly hard and tough substance covered the chest, reaching as high as the clavicle, and filling the axilla. It contained no cavity or cell, nor any part at all soft in its texture. The most striking character of this consisted in its colour, which was a bright yellowish green. With this there was mixed more or less red, and a few portions nearly white. The axillary glands formed a part of the general mass, from which they could not be distinguished by their colour or any other circumstance. The skin over the swelling had its corion very much thickened, and this change extended beyond the middle line of the chest. The tumor in most of its extent was distinct from the pectoral muscle, but had extended through it opposite to the ulcerated portion, and seemed to have converted the fibres completely

into its own substance. The cellular tissue in both the pectoral muscles and in the intercostals, as well as in all parts about the region occupied by the tumor, had the same remarkable green colour as the swelling itself. This colour extended along the subcutaneous stratum to the opposite side of the chest, and was observed in many points in the substance of the left pectoralis major. A very large mass of substance, entirely resembling the original tumor, was placed above the right clavicle, and extended backwards to the spine, involving the axillary artery and vein, and plexus of nerves. The right pleura was greatly thickened, particularly where it covers the diaphragm, and converted into a tough green substance; its cavity contained more than two quarts of a very bright lemon-coloured fluid. The lung was reduced to a very small size, and its covering of pleura was thickened; but there was no disease in its substance.

The peritoneum lining the right side of the diaphragm was thickened and green; and the membrane had undergone a similar change in two or three patches behind the abdominal muscles.

Two hard lumps, consisting of the substance of the gland indurated and turned green, were found in the pancreas; and a very considerable number of masses of the peculiar green substance were dispersed through both kidneys, the intermediate portions of these organs being quite sound.

A portion of cellular substance behind one of the vesiculæ seminales was hardened, and exhibited the green colour.

The lymphatic glands were very extensively diseased: they were enlarged in various degrees, and their substance more or less extensively converted into a hardish homogeneous mass of the colour already described. In some instances this deposition occupied the centre of the gland, and was surrounded by a thicker or thinner stratum of substance resembling the natural structure of the part; in some this external layer had a deep red and bloody appearance; other glands were converted entirely into the green structure. The cellular texture surrounding the glands was loose and natural. The axillary glands, on the diseased side, could not be distinguished from the original tumor, and those above the clavicle formed a large swelling of exactly similar appearance. From this a chain of enlarged glands extended to the trachea, and along its right branch to the lung, all the glands of which were affected. The axillary glands of the left side were very considerably enlarged. The right inguinal glands were slightly diseased: those situated about the external and internal iliac vessels, the aorta, and vena cava, as high as the diaphragm, were greatly enlarged, and formed one continuous chain. The largest of these were equal in size to hen's eggs, and had the bloody appearance externally. Two or three glands in the mesentery,

one on the stomach, one behind the right rectus abdominis, and several in the posterior mediastinum, were slightly enlarged, and partially converted into the green substance.

The large lymphatic trunks passing between those abdominal glands, which exhibited the bloody colour in the most remarkable degree, were distended with a reddish fluid. The thoracic duct contained a similar fluid, and was pervious throughout. The right absorbing trunk was pervious at its termination. Neither the left arm nor the lower limbs were at all oedematous.

The lining of the pulmonary artery and its branches, and of the aorta, together with its primary ramifications, was of a bright red colour, but not thickened.

The mucous membrane of the trachea and its branches, presented a deep red colour, and the surface was crowded with small vessels.

No part of the brain shewed any trace of disease; and the right axillary nerves, which were involved in the diseased glands and the primary tumor, were equally free from all morbid appearance.

CASE II.—A woman, who had laboured for some time under a singular affection of the arm, grew gradually worse, had a difficulty of breathing and

general debility, and died. The subcutaneous tissue of the arm, from the elbow upwards, was converted on the inner side, and over about one half of the limb, into a solid brawny mass of about an inch in thickness, which elevated the integuments into several small tubercles. Two deep ulcers, with foul surface, irregular everted edges, and unhealthy discharge, had formed in this diseased mass. The axillary glands, and those above the clavicle, were changed into a large tuberculated substance, resembling, in its hardness and very light brown colour, the original disease. Small depositions of a similar kind had taken place in the cellular substance of the biceps muscle; and several small portions, hardly producing any elevation of the surface, were found in the median nerve, for about two or three inches of its course. Very numerous tubercles were scattered over the surface, and through the substance of the lungs: they possessed a whitish colour, and firm homogeneous texture. They were most abundant on the surface, and varied in size from a millet seed to that of the end of the finger. There was no appearance of suppuration in any of them. The bronchial glands were enlarged.

CASE III.—In a patient, who had been for some time under medical treatment, on account of disordered intestinal functions, and whose breathing was affected only a few days before his death, a great number of very large and peculiar tubercles

was found in the lungs. They were very firm, of a white colour, and nearly uniform in appearance throughout. Some were entirely imbedded in the substance of the lung, while others appeared on the surface. They varied from the size of the fist to that of a nut. Nothing like suppuration appeared in any of them; but there was a slight blackish appearance in some, as if the substance of the lung had been imperfectly converted into the tumor. In the intervals of the tubercles the lung was healthy. The bronchial glands were considerably diseased.

Four or five small tubercles were observed on the heart, under its serous membrane.

A considerable tumor was found on the upper surface of the diaphragm, with the lung adhering to it; and a similar one was seen under the thick edge of the liver.

Five or six round and hard tubercles of different sizes appeared in the omentum; and many smaller ones under the peritoneum in various parts of the abdomen.

A white firm tubercle of the size of a nut, was found in one of the kidneys.

CASE IV.—In a woman, with whose history I am entirely unacquainted, the pelvis presented a most

destructive disease. The neck of the uterus was destroyed; the remainder of that organ, the back of the bladder, and the front of the rectum formed the sides of a large cavity, with a rugged and irregular surface covered by a horribly foetid discharge. The bladder communicated with this by a large opening, and the large intestine by two ulcerated apertures, one in the rectum, and the other in the sigmoid flexure of the colon. The fundus of the uterus had its natural appearance; but the part which contributed to the formation of the cavity, consisted of a white and softish matter. A similar substance surrounded the rectum, and connected it firmly to the sacrum; it extended into the substance of that bone, which it had rendered so soft that it could be cut with a knife. The inguinal glands of the right side were converted into a tumor of similar appearance. On the surface, and in the substance of the liver, there were several depositions of a white soft matter, of various sizes. The texture of the disease was very similar in all these parts. Maceration softened it considerably, and pressure then reduced it to a pulp, which would not have been distinguished from the substance of the brain.