ORIGINAL COMMUNICATIONS.

CASES OF ABSCESS OF THE SPLEEN,
WITH REMARKS ON THE PATHO-
LOGY OF THAT ORGAN.

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OUR knowledge of the functions of the spleen, or of the purpose which this organ serves in the animal economy, is so extremely imperfect, and our diagnosis of its diseases consequently so uncertain, that it is desirable to record every fact which may contribute to throw a little light upon either: and it seems probable that through the pathology we shall find the most trustworthy way of exploring the physiology of this organ. With this view, I have thought it not unprofitable to draw attention to the subject, by shortly describing a case which appears to be of rare occurrence, and adding a notice of some similar cases, with a few remarks suggested by a consideration of the facts brought forward.

I regret that my memoranda do not enable me to give a more complete history of the following case.

CASE I. The subject was a married woman, aged 36, who was delivered of a first child, in April 1833, by a practitioner with whom I was not acquainted.

On July 17th, I saw the patient for the first time, in conjunction with Mr. Jordan, and learned the following particulars:—Since the birth of her child, she had never been well, having suffered much pain in the left side, and having seldom been able to quit her bed. There was felt at this time, below the ribs of the left side, a tumour, having an obscure degree of fluctuation. There were frequent shiverings, occasional vomiting, rapid pulse, thirst, and cough. She was very helpless, lying best on her back, suffering dyspnoea when laid on either side, or when sitting up for any length of time. The countenance had a very peculiar expression—a kind of smile mingled with anxiety. The complexion was of that appearance which Darwin likened to that of a full-grown silk-worm, and John Bell to modelled wax.

Palliatives only were thought advisable under these circumstances; and I did not see the patient again till September 3rd, from which time till her death, on October 8th, she continued to decline. During the last eight days of her life, she had a discharge, *per anum*, of very offensive matter, mingled with small blood-coloured vesicles; and after the commencement of this discharge, the tumour in the side disappeared.

Examination of the Body on October 10th, forty-four hours after death, by Mr. Jordan and myself. When the abdomen was laid open, a superficial view of its contents presented no marks of inflammation. The stomach was situated low down; and, on a close examination, its large end was found to have contracted adhesions to the adjoining textures. The small intestine was removed, and nothing remarkable observed in it. The adhesions of the stomach being torn up, a large cavity was exposed, bounded by the stomach, diaphragm, left kidney, and colon. There were no remains of the spleen, except its capsule, and two fungoid bodies, of the size of walnuts, lying over the kidney. The diaphragm was pushed far upwards, so as to diminish considerably the left cavity of the thorax. The sac contained a small quantity of turbid and very foetid matter; it communicated with the descending colon by a circular aperture, with smooth edges, capable of admitting the tip of the forefinger. The liver was pale; the gall-bladder contained a small quantity of light-yellow bile.

The substance of the lungs was healthy. The left lung was reduced in volume, occupying only the upper portion of the chest. The vertebrae did not appear diseased.

The obscurely fluctuating tumour, accompanied by hectic,

and preceded by acute pain, rendered the existence of an abscess almost certain; and the situation of the tumour led us to suspect the spleen to be the seat of disease. The evidence for both these suppositions was much strengthened by the nature of the discharge from the bowels during the latter days of life, and the simultaneous subsidence of the tumour. Yet, as neither of us had ever seen a similar case, it required the further evidence of anatomy fully to satisfy our minds as to the actual state of things.

The following case of suppurated spleen is related by Dr. Raikem, in the seventh volume of the *Repertoire d'Anatomie*; the leading points I quote from the *Medico-Chirurgical Review* for December 1829.

CASE II. A young man, aged 20, of a sedentary occupation, and a spirit-drinker, had inflammatory fever, with pain in the left hypochondrium, nausea, and vomiting, followed by a tumour and lancinating pain in the left hypochondrium, with yellow complexion, and evening exacerbations. The tumour extended till it reached the umbilicus, and at the same time became softer. It then diminished, and the pain was mitigated; "but the patient began to suffer from a sense of intolerable dragging, and constant lancinating pains in the left lumbar region, where oedematous swelling and deep fluctuation were discovered". These pains shortly ceased to be severe; "but the fever and other symptoms grew rapidly worse; the belly was blown up, and painful on the left side, from the hypochondrium to the groin. A hard, very painful, and circumscribed tumour appeared in the latter situation. The breathing became hurried, laborious, and attended with pain on inspiration. There was frequent dry cough; difficulty of lying on either side; rapid and weak pulse; diarrhoea"; and the patient died at the end of two months.

Examination of the Body. In the left cavity of the thorax were found more than two pints of yellow serum, with flakes of lymph; and the pleura was covered with false membrane.

In the abdomen "the superior portion of the descending colon, and the great end of the stomach, were closely united to the spleen. This latter viscus was double its ordinary size, and of vermilion colour on its borders. The peritoneum, opposite its posterior surface, was raised by a whitish, thick, purulent, and very foetid fluid, which was found to have issued from the cavity of a vast abscess in the substance of the spleen. From this it had extended between the peritoneum and the abdominal muscles as far as the kidney, the spine, and even as low as the crural ring".

CASE III. In the same volume of the *Medico-Chirurgical Review*, is quoted a case from Fantoni, of an abscess of the spleen discharging itself at the umbilicus. The patient recovered, bore a child, and lived five years afterwards. On opening the body, no vestige of the spleen remained; and the neighbouring parts were united by cicatrices in the usual situation of the missing organ.

CASE IV. Mr. Hickman, in the sixteenth volume of the *Medical Repository* (1821), relates a case, of which the following is an epitome.

A girl, of a scrofulous habit, at the age of thirteen, complained of pain in the left hypochondrium, which was soon removed under the care of Dr. Thorp. In little more than a year, she again applied to him, labouring under the symptoms of general dropsy. She was again relieved, but not cured. At length an ulceration appeared at the umbilicus, which discharged abundantly a thin glairy fluid, and some particles of undigested food. Three days before death, which occurred at the age of fifteen, Mr. Hickman saw her in excessive agony, arising from complete obstruction of the intestines.

Examination of the Body. Inspection of the abdomen discovered strong adhesions between the peritoneum and its contents. The transverse arch of the colon—callous and obliterated so as not to admit the smallest probe—adhered to the lower edge of the liver, which was the only organ having the slightest appearance of health. The stomach was in a state of universal ulceration, "adhering to, and communicating with the spleen, which was a mere sac, con-

* This paper was read before the Medical Society of Manchester several years ago; and is now communicated, with some additions, by Samuel Crompton, Esq.

taining pus and undigested food ; out of this sac it passed through the layers of the muscles to the umbilicus, so that all the food was either rejected, or took this course". The small intestines were a complete mass of disease, and reduced to very small dimensions. The blood-vessels of the abdomen were greatly enlarged, particularly the renal ; and in the left renal artery was found an aneurism. The heart was unusually large.

I will next advert briefly to some of the cases of like nature, collected by Dr. Abercrombie, in his *Contributions to the Pathology of the Spleen*.

CASE V. The first case came under his observation in the person of a gentleman, aged 52, who died after an illness of six months, during which there were no prominent symptoms, but progressive emaciation and weakness, with frequent pulse, and sometimes feverish nights. He had never complained of pain ; but, on being closely questioned, mentioned an occasional feeling of undefined uneasiness in the epigastrium. Three days before death, he was affected with diarrhoea.

Examination of the Body. The spleen was found enlarged, and in its centre was an irregular cavity, containing several ounces of pus ; the surrounding substance being soft and easily torn. The liver was pale, but otherwise healthy.

CASE VI. His next case is taken from the *History of the French Academy of Sciences* for 1753. A young man, aged 18, several months after his recovery from a quartan intermittent, was affected with slight fever and violent colic pains. He had then loss of appetite and sleep, laborious breathing, oedema of the legs, scanty urine, and enlargement of the abdomen. He was twice tapped, and each time four pints of pus were drawn off. He died the day after the second puncture. On dissection, the spleen was found enormously distended, extensively adherent, and forming a sac, which still contained seven pounds of purulent matter : the other viscera lay compressed behind it.

CASE VII. Another remarkable case, related by M. Coze, in the *Journal de Médecine*, tome lxxxi, p. 225, occurred in a man who had for several years endured pain, sometimes acute and sometimes obtuse, in the epigastric region, along with a feeling of pulsation at the stomach, which was increased by exercise, or by any excess in diet. He was easily fatigued, and a sense of suffocation was induced by any exertion ; and he had occasional vomiting. Nothing more than a slight tension across the epigastrium could be discovered by manual examination. Towards the close of his life, there was a slight yellow tinge of the skin. At length, he was seized with a vomiting of blood, mingled with pus ; and, for a fortnight felt better than he had been for years. The vomiting then returned ; and at the end of another week a third attack proved fatal.

Examination of the Body. The spleen was found adhering closely to the stomach, and forming a bag filled with pus and clotted blood. It communicated with the cavity of the stomach by a large opening at the point of adhesion.

CASE VIII is related by M. Jacquinelle, in the *Journal de Médecine*, tome lxxviii, p. 360. A youth, aged 17, after several injuries from falls, and a state of general disorder, complained of pain and fulness in the left hypochondrium, along with palpitation, faintings, and emaciation, and died about a year after the commencement of his disease. Before death, the pain ceased, and a quantity of dark foetid matter was discharged by stool.

Examination of the Body. The spleen was found much enlarged, adherent to the colon, and containing in its substance an abscess, which had burst into the colon at the place of the adhesion. The heart was also enlarged, and there was dilatation of the aorta.

CASE IX and X. Grottanelli records a case, in a girl of 12 years, in which an abscess of the spleen burst into the peritoneal cavity, and proved fatal in three days. In another singular case, mentioned by the same writer, a man who, after several attacks of ague, was supposed to have abscess of the spleen, received a violent blow on the

left side ; after which the tumour, previously existing there, subsided, and he discharged thick and foetid matter along with his urine for three weeks. He then recovered good health, and continued well seven years afterwards, when the account was published.

The following case, erroneously referred to in Dr. Monro's *Outlines of Anatomy*, as a case of abscess of the spleen, is recorded by Dr. Nathan Drake in the second volume of the *Edinburgh Medical and Surgical Journal*.

CASE XI. Mrs. Newman, a widow, aged 49, of corpulent habit, and long subject to dyspepsia, on the 29th of October, 1805, soon after dining heartily on roasted pig, was seized with violent epigastric pain, sickness, and vomiting ; which, though mitigated for a time by the emptying of the stomach, returned in a few hours with aggravation, accompanied by severe lancinating pain under the left false ribs, and continued with few intervals until the next day, when Dr. Drake saw her. At this time the pain and vomiting continued, with a hot and harsh skin, thirst, white and moist tongue ; pulse 130, neither full nor hard. The bowels had been rather constipated for several days, and had not been moved at all since the commencement of the attack, notwithstanding the employment of powerful means for that purpose. The abdomen was distended, but no hardness or tumour could be felt. The urine deposited a copious lateritious sediment. There had been no rigor ; and there was neither pain nor difficulty in breathing.

Various means of allaying the irritability of stomach, and opening a passage through the bowels were tried during the 30th and 31st of October. On November 1st, blood was taken from the arm, in quantity not exceeding six ounces, which, on standing, "exhibited a thin, concave, buffy surface" ; but the crassamentum was so dark and loose, and the pulse (130) so very weak, that the consultants* dared not carry the abstraction of blood any farther. On the evening of Nov. 1st, a small evacuation of the bowels took place, which during the next twenty-four hours was followed by fifteen more ; "and a prodigious quantity of black, knotty, and hardened faeces" was evacuated. "The relief obtained was great ; the pain was removed ; the irritation of the stomach subsided : and the pulse sank to 80."

On Nov. 3rd, the pulse had again risen to 100 ; there was a little vomiting, but an extreme degree of acidity in the stomach. The pain of the left side was little felt whilst the patient lay upon her back ; but she could not lie upon her left side, even for five minutes, without an insupportable sensation of weight and dragging. The following week, pain and vomiting came on again in a severe form, and again subsided under the use of brisk purgatives ; which throughout the whole course of the disease afforded more relief than any other remedy that was tried.

The case proceeded with alternate aggravation and remission of the symptoms ; the stomach could receive only small quantities of food ; emaciation made rapid progress ; the skin was continually dry and harsh ; the tongue foul, with foetid breath, much flatulence, and great acidity in the *primæ viæ*.

In the middle of January, the left ankle and knee were successively affected with severe pain, followed by oedema of the whole limb ; and during this time little pain was felt in the stomach or side.

In February the oedema had disappeared ; the pain in left side was occasionally, but not permanently severe ; distension and vomiting certainly returning with violence, if the purgative was deferred beyond the third day. The patient slept some hours every night, but could never lie on the left side ; emaciation and debility increased, but there was no hectic ; no tumour could be felt in the abdomen ; nor was there any discoloration of the skin ; tongue cleaner ; urine natural.

On April 8th, Mrs. Newman suddenly complained of a swelling at her stomach, with a sense of great fulness. On examination two days after, a considerable tumour was found reaching from the ensiform cartilage to the umbili-

* Drs. Clibbe and Drake, and Mr. Bunn.

cus: it was circular, prominent, and well defined, and had distinct fluctuation. On the following day, the tumour had subsided to half its former bulk, and therefore no operation was performed until the 17th; when—the tumour having risen even beyond its former dimensions, and pressing upon the stomach so that not a teaspoonful of any thing could be retained, even for a minute—a trocar was introduced, and there were drawn off two pints of a fluid, free from fœtor, resembling thin diluted coffee in colour, and partially coagulable by heat.

After the operation, the patient was able to retain the usual quantity of food upon the stomach; she passed the evening nearly free from pain, and had some sleep. But the following morning she began to sink, and early on the 19th she expired.

Examination of the Body a few hours after Death. The omentum was greatly thickened by the deposit of a granulated caseous matter, extending lower down than usual, and strongly adherent to the peritoneum generally. The stomach was nearly three times its ordinary thickness, and its capacity was reduced in the same proportion. The organization of the spleen was destroyed; its peritoneal coat was dilated into a large cyst, with bloodvessels of enormous size ramifying on its fundus. "The upper part of the cyst strongly adhered to the whole under surface of the stomach, and the lower part to the upper edge of the great arch of the colon. The diameter of the cyst was full six inches, and it contained more than a pound and a half of dark, dense, coagulated blood, several portions of which, nearly as large as a man's fist, floated in a brown-coloured serum, of which there was better than a pint." "The bottom and sides of this bag were covered about an inch deep with a black tenacious matter, of the consistence of congealed honey; which when examined with the fingers, was found interspersed with masses of the same caseous substance which covered the omentum."

The stomach and liver were both pressed upwards, and the arch of the colon thrust several inches below its natural situation, and so contracted in diameter, "that when the body was opened it projected like a chain of very small bladders". The blood-vessels on the arch of the colon were turgid; and the mesocolon was diseased like the omentum.

There was no communication between the splenic cyst and any of the adjacent viscera; its contents were not fœtid; nor was any pus discovered there, or elsewhere.

It may be remarked that, in all the cases of suppuration in the spleen now produced, the progress of the disease was slow. In fact, acute *splenitis* has been so seldom noticed, that we may fairly infer, either that it is very uncommon, or that its diagnosis is difficult. Hence Dr. Abercrombie was led to conjecture that abscess of the spleen was necessarily preceded by a state of induration and enlargement, or by tubercular disease; whilst the more rapid and acute forms of disease involving this organ appeared to terminate in a state of *softening*, in which the substance of the spleen is broken down into a semi-fluid resembling melted pitch, or black-currant jelly, contained within its peritoneal covering as in a bag; such as is frequently observed in fatal cases of typhus, and other fevers. This opinion of Dr. Abercrombie's may or may not be well founded; but it derives no great degree of support from his own case, in which a central abscess was found, and the surrounding substance soft and lacerable; and in other cases we have every degree of variety, from entire destruction of the organ, to the existence of many or few small suppurated tubercles.

Our diagnosis of this disease must still be considered imperfect; but its presence may be strongly suspected when the following symptoms concur in any individual: pain in the left hypochondrium, accompanied or followed by a tumour in which any degree of fluctuation can be detected; tension in the epigastrium; dyspnoea; vomiting; hectic fever; emaciation; and debility. Hackman* mentions as a constant symptom of enlarged spleen, a sense of distressing fulness in the præcordia, with dyspnoea, which is

sometimes so intense as to amount to orthopnoea. Mr. Twining* has remarked that in engorgement of the spleen, as observed in Bengal, "the respiration is low, languid, and imperfect, the lungs being but partially filled with air".

To the above symptoms I was at first inclined to add the peculiar change of complexion noticed in the case which occurred to Mr. Jordan and myself; but I cannot, on the strength of a single case, venture to do more than recommend attention to this point by future observers of diseases of the spleen. This caution, in drawing inferences from isolated facts, is more especially necessary on the present occasion, as Abercrombie, from his own experience, was disposed to attribute a similar appearance to disease of the pancreas; and perhaps it may be found that this complexion accompanies a state of anæmia, from whatever cause, not at all dependent on disease of any particular viscus. Nevertheless, it is worthy of being mentioned, in corroboration of an opinion that the spleen has more to do with the change in question than any other organ, that Mr. Twining, in the paper already referred to, speaking of *congestive engorgement* of the spleen, describes the face as being "of a pallid and lurid colour", and "the skin cool, with a peculiar dry feel, like a thin satin loosely laid over the soft cellular structure". Dr. Vetch† also, in his account of enlargement of the spleen succeeding the Walcheren fever, after saying that the "features have a peculiar dark, bilious, or mahogany hue" (which does not serve our present purpose), proceeds to observe, that "perspiration is in time wholly suspended, and the skin acquires the appearance and feel of satin"; an appearance which Jackson likewise noticed in convalescents from the remittent fever of warm climates, in which we know that the spleen is apt to suffer vascular engorgement, or more serious derangement of its structure. Lastly, Dr. Crane has remarked, that the inhabitants of Lincolnshire are often affected with enlargement of the spleen for many years, without exhibiting much appearance of disease beyond a pale or yellowish aspect. These remarks, however, apply more to congestion of the spleen accompanying intermittent and other fevers, than to splenitis or abscess of the spleen.

The following case presents some interest with regard to this subject.

CASE XII. A female of delicate constitution, aged 25, had been subject to rheumatic affections; and in the spring of 1835 underwent a good deal of fatigue and hurry, at a time when she had not completely recovered from an attack. She was never entirely well afterwards; she became languid and pale; lost her appetite; ceased to menstruate; and the heart's action was accelerated by the least exertion.

When I first saw her, about the middle of November, she had been confined to bed, on account of feebleness, a few weeks. The pulse at the wrist was 120, and the impulse of the heart rather strong. There was no difficulty of breathing, very little cough, and scarcely any pain; but the stomach with difficulty retained the lightest kind of food. There were profuse perspirations; and the complexion was remarkably pale, with some tendency to œdema. Pretty large doses of an opiate were required to procure sleep.

The perspirations were checked, but the pulse never fell below 100, though the heart's impulse was diminished in force. The stomach became so irritable, that vomiting was excited by everything that was taken, except the opiate; and for some time the only nourishment was administered in the form of clysters: perhaps a small portion of toast-water might also be retained.

A seton was inserted below the left breast, and various medicines were tried in succession: effervescent salines, acidulated drink, hydrocyanic acid, a blister to the epigastrium, dressed with acetate of morphia, and chalybeates cautiously administered. The saline draughts and the opiate seemed to be most useful; and latterly the oxide of bismuth, in the form of lozenge, seemed to have the effect of putting a stop to the vomiting for a longer time than anything else had done.

* Med. and Phys. Journal, 1832.

* Transactions of the Medical and Physical Society of Calcutta, 1829.
† Medical and Physical Journal, 1834.

The patient died, exhausted, on January 1st, 1836.

Examination of the Body, Jan. 4th. There was effusion of serum, on both sides of the chest, to the amount of more than a pint, and in the pericardium three ounces. A large part of the fluid probably exuded after death. The lungs were crepitant and healthy, with the exception of some inflammation in the bronchial tubes. The heart was of natural size, rather pale and flabby. The lining of the right auricle, at the base of the tricuspid valve, was roughened and red, and covered with a loose kind of substance, which could be scraped off. A slight degree of the same appearance was noticed on the valves of the aorta. The spleen was enlarged, redder and harder than natural; at the upper end, just under the capsule, was a body of the size of a small nut, consisting of a soft curdy matter contained in a cyst, which might be considered as a softened tubercle; at the lower end were several similar bodies, in a less advanced state. A section through the spleen showed the whole viscus to be diseased, presenting a surface of various degrees of redness; the lighter red being softest, and the darker minutely speckled with whitish spots. The liver was very pale; the gall-bladder filled with dark green bile. The stomach was pale externally; internally it exhibited some redness at the cardiac end. The rugæ were nearly obliterated; here and there were a few black lines, as if traced with Indian ink. The kidneys were perfectly healthy. The pancreas was perhaps a little harder than usual.

I have twice met with tubercles in the spleen.

CASE XIII. A girl of nineteen died in the Manchester Infirmary, under a complication of disease. I am indebted to Mr. Gaskell* for some short notes of the case, and for the rest have trusted to my own recollection. She had always been a delicate child, of stunted growth, and had never menstruated. She did not, in fact, appear to be more than fourteen years old. Two or three years ago, she complained of a tickling cough, and pain at the stomach, especially if hurried; and, eighteen months before admission, her abdomen had become swollen. She was much emaciated, and the skin had a deep yellow tinge. The abdomen was greatly distended with fluid; the legs were oedematous; and the liver was felt as low as the umbilicus. In the left hypochondrium, also, a tumour of considerable firmness was perceptible. Her voice was husky, and she had cough, attended by expectoration of a transparent, jelly-like mucus, generally tinged equally throughout with red particles. The pulse was frequent, and epistaxis and hæmatemesis occasionally took place; there was constant nausea, and frequent vomiting; the bowels were sometimes affected with diarrhoea, and always loose, the fæces being light-coloured. After being in the infirmary about six weeks, she expired in a fit of dyspnoea.

Examination of the Body. There was increased vascularity of the lungs, but no structural disease in them, nor in the heart. The liver was of a remarkable green colour, greatly enlarged, indurated, and presenting an irregular knotted appearance on the convex surface: a section exhibited a mottled appearance. The stomach was enlarged, and the softened mucous membrane furnished a good example of the brown discoloration from stagnant blood affected by the gastric juice. The spleen was five times its natural size; externally and internally, it was of a rather bright red colour, and was studded throughout with small yellowish white and softened tubercles.

CASE XIV. The other case occurred in the person of a boy named Henry Sunderland, seven years old, who, in the month of March 1818, received a cut on his head, and in April passed through the measles, after which he was never quite well, and died of hydrocephalus in July.

Examination of the Body. Messrs. Darnell and Boutflower assisted in the examination of the corpse, the general results of which it is not necessary here to specify. It will be sufficient to observe, that the spleen was studded throughout with granular bodies, somewhat resembling those in

currants, and consisting of a curdy matter contained in a cyst. If there had been time to examine the contents of the thorax, the lungs would probably have been found to contain similar tubercles. The kidneys were healthy; and so was the liver, with the exception of a portion on the convex surface, about the size of a shilling, and three lines in thickness, which was of a pale yellow colour, and a little indurated. The gall-bladder contained green bile.

In the treatment of diseases of the spleen, practical writers pretty generally concur in deprecating the use of mercury; and Mr. Twining, in particular, says that, in the state of constitution attending vascular engorgement of the spleen, the action of mercury is apt to induce alarming debility, with a tendency to sloughing of the lips, cheeks, and gums, which, when once commenced, has frequently, or rather generally, a fatal termination. This state of constitution, he says, is often seen in children, as a consequence of "damp climate, want of exercise, bad clothing and feeding, etc." It might be deserving of inquiry, whether the sloughing of the cheeks, and other soft parts, in some children of this country, is in any degree connected with a similar state of the spleen.

I do not mean to dwell at great length on the subject of the physiology of the spleen; since the best opinions on the subject amount to little more than plausible conjectures. The doctrine which has been most commonly taught is, that the spleen acts as a sponge, serving the purpose of a reservoir for any occasional superabundance of blood, so as to preserve other important organs from over-distension; and that it likewise serves to regulate the supply of blood to the stomach and liver, according to the necessities of these organs in the different stages of digestion. This, I believe, was Dr. Haighton's opinion; and it is supported by the experiments of which Mr. Dobson published an account.

He observed that, four hours after a full meal, the spleen in a dog is much enlarged, and attains its maximum in five hours.

The spleen of a dog was removed. On the following day, the animal was allowed to eat voraciously. For three hours afterwards, no inconvenience was manifest; but in four hours the dog became restless, and then sank into a nearly torpid state. "It was often moaning; the pupils were dilated; the heart labouring; there was frequent micturition; the respiration was exceedingly laborious; and, in short, there was every mark of plethora, or overfulness of the vascular system." A full meal was taken twice or thrice every twenty-four hours, and each was followed by similar effects. In a month after the operation, the dog died.

In a second dog, whose spleen was removed, the plan of giving small quantities of food every hour or two was pursued for three weeks, at the end of which time the animal appeared quite well, and had become fat. The same mode of feeding as in the first case was then adopted, and the effects were similar, but not so severe. The dog died in a month from the commencement of this plan of feeding.

It may here be mentioned (though a little out of place), that Mr. Dobson had an opportunity of examining the spleens of two great ale-bibbers, and found them very much enlarged: in one case so enormously as to give the idea of "a bladder half filled with oil".

The above-cited doctrine seems to me too mechanical to be received as a full and satisfactory explanation of the use of the spleen; though we may readily admit its regulating power to be one of the useful purposes that it fulfils in the animal economy.

Pemberton, in his work on *Diseases of the Abdominal Viscera*, states his belief that the spleen is a gland of supply. Among the testimonies in favour of this view, may be mentioned the observations of Mr. Twining, and more especially those of Dr. Vetch. The former gentleman says that, in the state of disease described by him, the appetite for food is not deficient, "but assimilation is imperfectly performed, and nutritious food does not restore the strength". Dr. Vetch says that a patient affected with

* Now one of the Commissioners of Lunacy.

enlarged spleen has generally a good appetite, "yet his powers of assimilation are obviously deficient; he loses flesh, and is incapable of any muscular exertion"; "the lips are pale, and there is generally much wasting of the gums; the urine is limpid, and secreted very rapidly, but contains little or no urea". This is a state of the system often observed in connexion with amenorrhœa. Dr. Vetch further observes that, "without the co-operation of the spleen, the blood ceases to acquire its recrementitious properties, none of the secretions possess their natural constituent parts, and—what is also worthy of notice—external injuries do not produce the secretion of what is called healthy pus". This is in accordance with a favourite hypothesis of Hewson's, that the red globules of the blood are formed by the spleen and its appendages. Dr. Hewson's view has in late years been revived by Dr. Hughes Bennett, of Edinburgh, in a paper published in the *Monthly Journal of Medical Science* for March 1852. He believes, with Hewson, that the lymphatic glandular system consists of the spleen, the thymus, and lymphatic glands; and adds to these the thyroid gland, the supra-renal capsules, the pituitary and the pineal glands; all which he believes to have for their office the formation of the blood. The following are his conclusions:—

"1. That the blood-corpuscles of vertebrate animals are originally formed in the lymphatic glandular system; and that the great majority of them, on joining the circulation, become coloured in a manner that is as yet unexplained.

"2. That in mammalia, the lymphatic glandular system is composed of the spleen, thymus, thyroid, supra-renal, pituitary, pineal, and lymphatic glands.

"3. That in fishes, reptiles, and birds, the coloured blood-corpuscles are nucleated cells, originating in these glands; but that, in mammalia, they are free nuclei, sometimes derived as such from the glands; at others, developed within colourless cells.

"4. That, in certain hypertrophies of the lymphatic glands, their cell-elements are multiplied to an unusual extent; and, under such circumstances, find their way into the blood, and constitute an increase in the number of its colourless cells. This is leucocythæmia."

Professor Kölliker, on the other hand, in his article on the Spleen in the *Cyclopædia of Anatomy and Physiology*, part xxxvi, advances an entirely different view, namely, that the spleen is a destroyer, not a regenerator, of blood. He believes that the blood-corpuscles "undergo solution in the spleen, and that their colouring matter is employed in preparing the colouring matter of the bile". He grounds this theory on the circumstances, that the blood-corpuscles must be dissolved to make room for the new ones, and that not the least trace of this process has been seen in any other organ; that in no other way can any reasonable account be given of the changes which the blood undergoes in the spleen; that the author's hypothesis elucidates the relation of the spleen to the portal system of veins—the dissolved blood-corpuscles being subservient to the formation of bile; and that the diseased conditions of the spleen, and their operation on the organism, are thus better explained.

The correctness of this view of Kölliker's is denied by Dr. Hughes Bennett in the paper to which I have referred.

While, then, we find physiologists of such eminence so totally disagreeing as to the functions of the spleen, we must receive all opinions on the subject with caution. This organ has always been the puzzle of physiologists; and I do not think that it will yet lose that character. The subject, however, should be prosecuted with a zeal proportionate to the difficulties with which it is surrounded.

Manchester, April 1853.

LETTSOMIAN LECTURES FOR 1853.

By EDWARD WILLIAM MURPHY, M.D., Professor of Midwifery in University College, and Obstetric Physician to University College Hospital.

LECTURE THIRD.

THE IMPORTANCE OF A SCIENTIFIC MEDICAL EDUCATION TO PRACTITIONERS IN MIDWIFERY.*

MR. PRESIDENT AND GENTLEMEN,

IN the two preceding lectures, I have placed in review before you the phenomena of parturition, the difficulties that present themselves, and the manner in which labours are too frequently mismanaged. I have done so, in order to show you the irreparable mischief which an incompetent person can do, and to prove that a sound, nay, a high standard of medical education is too often necessary to counteract those sources of danger to which the parturient woman is liable. I have endeavoured to expose the convenient, but most mischievous sophism, "that parturition is a natural process, therefore education is not essential for the safe delivery of the parturient woman". I trust that I have convinced you what a frightful sacrifice of human life may be the consequence of this error; and if any doubt should exist, I hope, before I conclude this lecture, to remove it by the evidence of facts.

It now remains for me to direct your attention to the present state of obstetric education, which, I regret to be obliged to confess, is deficient in the extreme; so imperfect, so inadequate, that if some expansive and efficient means be not taken to improve it, the accidents will become so frequent; the public so indignant; the coroner so often called upon; the doctor, who parades a diploma, so often exposed, that I fear our whole profession may be dragged down from the honourable pedestal on which it ought to rest, into the deepest abyss of degradation—public contempt.

The history of midwifery in these countries proves that the public are gradually becoming more and more alive to the importance of education amongst those who profess to practise it. Formerly, the universal rule was to separate the practice of midwifery altogether from the medical profession. Medical education was not thought, for the reason I have stated, essential for security; and if such were true, there was the strongest, the most obvious reason, for discarding men altogether from obstetric practice. The charge of the parturient woman was therefore committed exclusively to the midwife. However, her incompetency to meet all the difficulties and accidents that presented themselves soon became manifest; medical men were called upon in emergencies; and those who, by close study and observation, prepared themselves to meet these contingencies—the Fathers of Obstetric Medicine—were called by no medical title whatever; they were neither doctors nor surgeons, but simply "men-midwives"—a kind of professional hermaphrodites—most convenient for the purpose, because they were supposed to have sufficient knowledge to assist the midwife, without making a claim to be admitted among the scions of medicine. Thus it was that William Hunter, that Denman, that Merriman, were successively "men-midwives" to the Middlesex Hospital—a distinction which I believe still wreathes the brow of the obstetric physician to that institution. Man-midwife was the general term to include all obstetric practitioners of the masculine gender. In process of time, however, the public found out the truth, that the midwives knew little or nothing, and that it was essential for their security that the person in whom they confided should be educated: they acted, therefore, quite in opposition to their natural inclinations, and called in the aid of the physician or surgeon, not only in difficult, but in ordinary labours. The obstetric physician and the accoucheur superseded the midwife; the term "man-midwife" became obsolete, and is now only preserved in some institutions as

* This Lecture was delivered before the Medical Society of London, on March 23rd, 1853.