of pain in the head, and remained perfectly conscious until four o'clock, when a convulsion fit seized her; but, as it soon passed off and she became composed, her husband thought she was gone to sleep, and did not call me until the second attack came on between six and seven. I then found the os uteri beginning to dilate, being about the size of a shilling, and she had no return of convulsions until eight o'clock; in the interval she was only partially sensible, but the os uteri continued steadily to dilate, and, having taken some blood from the arm, I resolved to turn and deliver the child as soon as I could safely pass my hand into the uterus. However, labour made rapid progress, and the convulsions became less severe and frequent, so that I did not think this proceeding necessary. During this time I examined the urine taken from her chamber-pot, and found it highly albuminous. Between ten and eleven o'clock, a living child was born, but its birth was followed by a more severe convulsion than she had had before, and in spite of all our remedies, such as leeches, blisters, calomel and mercurial inunction, the fits continued every half hour until about ten o'clock the next day, when she expired in a state of coma; but the convulsions continued to assail her almost to the last, and the urine continued to show the presence of albumen.

I was not consulted by Mrs. C. previous to the 18th of April; but her neighbours have informed me that for some time past she had complained of severe pain in the head, she was free from all tendency to œdematous swelling.

I removed the kidneys after death, in order that I might take the opinion of Dr. Bright. The cortical part of these organs presented a leaden blueish hue; but I could not detect any material departure from healthy structure. In order, however, to be certain, I resolved to send the kidneys to Dr. Bright without changing their appearance even with spirit of wine; unfortunately some delay took place in their reaching his hands, and they were too much decomposed for him to give an opinion upon them.

REMARKS. In both these cases convulsions took place at the eighth month of pregnancy, were ushered in with gastric disturbance, and, in both, albuminuria existed; in one, indications of its presence were given by the œdematous state of the cellular tissue, in the other no warning symptoms existed. In one case, both the convulsions and the albumen in the urine disappeared after delivery of the child was accomplished, in the other the convulsions continued unabated, and the urine in the same state after the child was born. At the time of the occurrence of these cases there was so scarlatina prevailing, or any known case in the neighbourhood.

DETECTION OF ALBUMEN IN THE URINE. The reference to this process in the preceding observations gives me an opportunity of recording a difficulty which has occurred to me. A case presented itself in which it was necessary to ascertain the presence of albumen in the urine; but, as this excretion was rendered turbid by the admixture of mucus from the bladder, it was thought desirable to precipitate it by a little strong acetic acid before the application of heat or of nitric acid. The acetic acid threw down the mucus completely, and rendered the urine perfectly clear. But, on boiling the clear fluid, no albumen was precipitated, nor did nitric acid exhibit its presence. Some urine from the same patient was then cleared of its mucus by filtration instead of acetic acid; and the usual tests of heat and nitric acid then brought to light a considerable quantity of albumen. Some urine was examined from another patient known to be in the last stage of Bright's disease. The urine in this instance had no pus or mucus in it. On adding a little strong acetic acid, no precipitate took place, but it completely prevented the subsequent application of heat and addition of nitric acid from having any perceptible effect, whilst these tests threw down a very large proportion of albumen in the same urine, not previously treated with acetic acid.

Faversham, Kent, April 1854.

CLINICAL NOTES ON CHOLERA.

By W. LAUDER LINDSAY, M.D., late Resident Physician of the Surgeon Square Cholera Hospital, Edinburgh.

[Continued from page 353.]

[THE subjoined wood-cuts, illustrative of the Histology of the Evacuations, reached us too late for insertion in their proper places in the Journal of April 21st.—EDITOR.]

Fig. 1. Illustrative of the histology of the vomit.—a. Echinus-like fatty bodies. b. Potato-cells, full of starch grains or collapsed and empty. c. Compound granular bodies. d. Oil globules. e. Muscular fibres. f. Various forms of triple phosphate. g. Common salt. h. Pavement epithelium, some scales large and transparent; others atrophied, hazy, or granular, and more or less loaded with oleo-albuminous granules. k. Bands of mucus. l. *Sarcina Goodii*, complete and in fragments. m. Cylindrical epithelium, from interior of intestinal canal. n. Starch granules. o. Isolated spirals of vegetables, consumed as food. p. Fragments of parenchyma of vegetables. q. Pitted and spiral vessels of vegetables. r. Isolated cells from the parenchyma of vegetables, consumed as food. s. Forms of "annular bodies".

Fig. 2. Illustrative of the histology of the urine.—a. Various forms of uric acid. b c d. Casts of the renal tubuli, transparent, granular, and oily. e. Dumb-bell and octahedral crystals of oxalate of lime. f. Pavement epithelium, normal and altered in various ways. g. Compound cells, from leucorrhœal discharge. h. Pus, from the same source. k. Incipient fungoid mycelium, probably developed subsequent to the voiding of the urine. l. Forms of triple phosphate—some of them obtained by concentrating the urine, others by the use of re-agents. m. Forms of urate of ammonia obtained in a similar way. n. Action of acetic acid on leucorrhœal pus. o. Compound granular bodies.

III. PATHOLOGY OF CHOLERA.*

External appearance of the body. On looking at the corpse of a cholera patient prior to making a *post mortem* examination, the features were generally found placid and but little disturbed, thereby indicating a comparative absence of the suffering so frequently attending death in most diseases. In many cases, the surface was merely pale, and

* In describing the most illustrative pathological phenomena of cholera, where it is not otherwise specially mentioned, I am understood to refer to cases fatal in the collapse stage.

there was no single appearance, or group of appearances, which could lead one to suspect the cause or mode of death. In other cases, the eyeballs appeared abnormally full and prominent, from desiccation and shrinking of the surrounding cellular tissue; the same cause produced the falling in of the cheeks, which was frequently noticed in the collapse stage. In my own experience, there has been no marked cyanotic condition of the surface; there was sometimes a dingy livor of the thighs, legs, and feet,—a livid mottling of the arms or face, or a leaden or purplish tinge of the extremities of the fingers or nails; more frequently the livor was confined to the depending parts of the body, and due to mechanical [passive] congestion; the remainder of the surface being pale and exsanguine, or presenting its usual colour: the lips and face in particular were often exsanguine. The fingers were frequently firmly contracted, and their extremities corrugated and sodden. The *rigor mortis* varied as much as in deaths from other diseases: in some collapse cases it was very strong; in other cases, fatal at subsequent stages, it was comparatively weak. For some hours subsequent to dissolution, I generally found the muscles flaccid and pliant, and more or less contractile, as tested by galvanism, which, however, tended to weaken or destroy the subsequent *rigor mortis*. This condition of the muscles generally co-existed with a considerable rise in the temperature of the body immediately, and continuing for some time after death, and also with the exhibition, in many cases, of *post mortem* movements, of which more anon. In comparatively few cases was there ecchymosis of the palpebral conjunctiva: when it did exist, it was confined chiefly to that lining the lower eyelid, and was in the form of points or minute patches. Injection of the ocular conjunctiva, radiating from the cornea as a centre, was more common, but only in cases fatal during the typhoid stage. The subcutaneous fat was, in most cases, average or above it, indicating, to a certain extent, that cholera does not restrict its attacks to emaciated individuals or shattered constitutions, but is equally liable to affect persons in the enjoyment of robust health, who may even be *embonpoint*. The subcutaneous cellular tissue was sometimes very dry, crackling when torn. On opening the body, the muscles were frequently dry, dull in tint, and condensed, resembling in general appearance smoked or baked meat; at other times they were flaccid, and of natural colour; their condition has not appeared to me to bear any fixed relation to the stage or intensity of the disease, though the dryness was more frequent in the collapse stage. The body seldom exhaled, in a marked degree, the peculiar *cholera-odour*, even in collapse cases, or where it was covered with an unctuous matter, the result of former copious diaphoresis. On opening the abdomen or the intestines, there was seldom much, if any, decided fœtor, unless in deaths in the typhoid stage, where the intestinal contents were copious, fœculent, and in progress of decomposition. In the collapse stage, decomposition, as evidenced by fœtor and green discoloration of the abdomen, was much less rapid than in subsequent stages, where it occurred as early as in other diseases. I have known collapse cases remain quite fresh for a considerable number of days,—even after interment and subsequent exhumation. The dark or dusky areolar round the eyes, so commonly seen during life, remained sometimes after death in the collapse stage; but it was seldom or never seen in cases fatal at subsequent periods of the disease.

Head and spinal canal. In some cases there was venous congestion of the posterior portion of the calvarium and scalp, apparently mechanical and passive. The sinuses of the dura mater and the veins at the base of the brain, were sometimes more or less gorged; arterial hyperæmia of the pia mater sometimes existed; there was seldom any marked engorgement of the choroid plexus, which, however, in a few instances, exhibited to a slight extent the dropsical or encysted condition, which is frequently more fully developed in some forms of insanity and in other diseases; and the *puncta vasculosa* of the cerebral substance were sometimes apparently darker and more numerous than in

the healthy brain. In many instances, the arachnoid was thickened to various degrees and at various points, and exhibited milk-white opacities, sometimes of a flocculent lymph-like character; its sac was frequently the seat of serous effusion, which was most abundant at the base of the brain; the result of this was that the membranes were seldom or never adherent to the convolutions, but readily separable therefrom. The convolutions were affected in only one case, where their surface was somewhat rough, granular, and irregular. The quantity and quality of the ventricular serum varied greatly: in some cases, the ventricles were merely moistened, or they contained each from half a drachm to a drachm of clear, muddy, or flocculent serum; they were never absolutely dry. The consistence and appearance of the white and grey portions of the brain were normal, as were also the cerebellum and internal ganglia. None of the appearances above noted had any fixed relation to the duration, stage, type, or intensity of the disease; and they were only such as are extremely common in other diseases, where no coma or other affection of the sensorium has existed. The congestion, which is occasionally found, is probably merely one result of the general congestion of all the internal viscera, so common in the collapse stage of cholera. In some cases, there was no departure from the normal condition. The weight of the brain, exclusive of the dura mater, varied from 2 lbs. 9½ oz. to 3 lbs. 2½ oz.

The *spinal cord* and its *membranes* are very seldom examined in cholera: where, however, they have been so, they are usually found to possess appearances similar to those described in the brain and its investments, or else to be essentially healthy. Hyperæmia or venous congestion of the membranes is very common in deaths from all diseases, but must not be considered as in any degree essentially morbid, being generally *hypostatic*, i.e., the effects of gravitation, from the body having lain on its back for hours or days, not only after, but also prior to death.

Thorax. Heart. Its weight varied from nine to fifteen ounces, the average being from eleven to twelve ounces: the maximum was in a case of hypertrophy with dilatation. It was usually normal in size, shape, and the condition of its valves and cavities; in a few instances, chronic lesions existed. Its superficial veins were sometimes gorged; its consistence was sometimes firm, at other times flaccid; its muscular substance of a dull brown tint, liked baked meat, or of natural colour, dry, or normally moist; its surface sometimes exhibited the milky opacities which are said by some authors to be the results of pericarditis, and by others to be non-inflammatory in their origin. The *left ventricle* was generally firmly contracted, and devoid of blood. If it contained blood, this was fluid, and seldom exhibited distinct or decolorised clots, though it was sometimes loosely coagulated. The *right* side was usually flaccid and full of blood, very frequently containing decolorised clots, which sometimes extended up the pulmonary artery. The number, size, consistence, and colour of these fibrinous coagula varied much; they were seldom altogether absent; not unfrequently they were bulky, but loose and friable; sometimes they were intimately intertwined among the *columnæ carneæ*, from which they were with difficulty separated. Ecchymoses, punctiform and in patches of various sizes, were frequently met with; they were usually of a dark purple colour, though sometimes of a bright red; and, on being cut into, the patch of extravasated blood was found to penetrate deeply into the cellular tissue and fat. Their most frequent sites were the *septum ventriculorum* and *auriculorum* posteriorly, the posterior surface of the auricles, particularly the left, and the cellular tissue and fat surrounding the origin of the great vessels behind; much more seldom were they found over the *septum ventriculorum*, the surface of the auricles, or the origin of the great vessels in front. The following chronic lesions were met with in a few cases where the patients had attained the age of fifty or upwards: viz., in one case, hypertrophy of the left ventricle, and dilatation of the right cavities, going along with contraction of the aortic and mitral ori-

fices, and thickening of the margins of their valves, and with thickening of the tricuspid valve; and in another case, thickening and calcareous deposit on the aortic valves, rendering them rigid and incompetent, with slight atheroma of the aorta, in the form of specks.

The *pericardium* was seldom quite dry, but was usually more or less moist, and sometimes contained from half a drachm to a drachm of clear or turbid serum, especially in cases fatal in the typhoid stage. Ecchymoses were comparatively rare, even though they existed on the surface of the heart. The large vessels in the immediate vicinity of the heart, especially the veins, were usually full of blood; the arteries at a distance, especially the smaller ones, were generally found comparatively empty. The congestion throughout the body in cholera is chiefly confined to the larger veins, sometimes extending to the smaller venules and the capillaries.

The *blood* has not appeared to be so dark, viscid, thick, and tarry as has frequently been described; nor do I think that it differs in naked eye characters from the blood examined after death in many other diseases, *e. g.*, various chronic (and acute) affections of the lungs. In some cases, I have certainly found it dark in colour, dull in tint, fluid and grumous, and exhibiting not the slightest tendency to coagulation; in other cases, again, it contained a due admixture of decolourised clots. On allowing a portion of it to remain exposed to the air for a short time, the upper stratum became a bright arterial red, while the lower retained its original venous tint. From the hyperæmia and œdema of the lungs, which are exceedingly common pathological phenomena of cholera, and which, by impeding or suspending the function of respiration, must prevent, to a certain extent, the aëration, oxygenation, and arterialisation of the blood, it is natural to expect a considerable alteration in the characters of that fluid; such alteration, however, is by no means characteristic of cholera. The microscopical characters of the blood were generally normal. In one instance, I found the *red disks*, not recognisable as such, but very granular, and resembling pus, both before and after the addition of water and acetic acid; in other cases, the red corpuscles were slightly granular or hazy, or they exhibited a marked tendency to unite in rouleaux. In one case, also, I found the white corpuscles present in considerable excess. The chemical changes of the blood in cholera are probably wholly due to exosmosis, and not to plastic structural alterations: where these are found, they are likely to have pre-existed, and are unconnected, except in a concomitant or accidental relation, with the disease.

a. Altered blood-corpuscles. b. Altered blood-corpuscles after addition of acetic acid. c. Cylindrical, ciliated, and pavement epithelium, contained in juice squeezed from the lung; the latter loaded with oleo-albuminous granules. d. Epithelial sediment of urine, removed by catheter after death. e. Cylindrical epithelium, mucus and mucus-corpuscles, etc., contained in rice mucus, taken from the small intestines. f. Nude villi scraped, along with mucus, from the interior of the intestines.

Lungs. The weight varied from 1 lb. 4 oz. to 3 lbs. 4 oz.; the average was about 2½ lbs. The maximum here given was in a case where one lung was consolidated by pneu-

monic exudation. In no cholera *post mortem* inspection made or seen by me was there not present some emphysema and collapse of the anterior margin, and hyperæmia or œdema of the posterior portion of the lungs. They were generally crepitant throughout, except sometimes over a limited space posteriorly and inferiorly, unless where other lesions coexisted. The emphysema was usually slight in amount, and alternated in patches with portions of collapsed tissue, giving a very irregular broken margin to the lung, which generally overlapped the pericardium. Occasionally it was bullose, and not confined to the anterior margin, but occurring to a less extent at the apex. It appeared to be of very recent origin, beginning probably, in some instances, only a few hours prior to death; except in one case, where it seemed connected with old bronchitis and collapse. On making a section of the postero-inferior portion of the lungs, and applying pressure, the juice which exuded was either pure blood of a dark venous hue, sero-sanguinolent fluid, bloody mucus, or nearly pure frothy serum; in one case (of consecutive typhoid pneumonia), it was muco-pus. Though both are very common, I have not noticed hyperæmia or œdema in proportion to the intensity or duration of the dyspnoea or the disease. The microscope detected, in the juice expressed from the lung affected with pneumonic consolidation, above alluded to, blood, and pus-corpuscles, and mucus, but no compound granular bodies (exudation-corpuscles). The *bronchi* were frequently the seat of increased vascularity, and contained rusty coloured mucus. The pathological appearances of the bronchi seemed often to indicate acute bronchitis; but the symptoms forbade this supposition. I have never heard, in cholera, the dry or cooing râles indicative of the first stage of bronchitis; and the moist râles, fine and large, which are usually so copious immediately before death, are doubtless due to œdema, which again is a result of the stagnation of blood in the lungs. It appears to me more consistent to regard these appearances, not as inflammatory, but as merely due to mechanical causes, *viz.*, stagnation of blood in the capillaries and veins. In one case, the lower third of one lung was tough, dry, and flaccid; the fingers could not penetrate parts of it, some of which sank, others floated in water. Its juice consisted, under the microscope, of altered blood-corpuscles, cylindrical epithelium, and a few compound granular bodies. In one case, also, there was old pulmonary hæmorrhage to a small extent. Occasionally, the two lungs differed in size, chiefly from the presence or effects of chronic lesions. I have not met with advancing tubercle, nor any acute pulmonary lesion co-existing with cholera. Retrograde or obsolete tubercle, and pneumonia of a peculiarly low type, I have seen. In one case, in the apex of the left lung, I found a putty-like mass, about the size of a pea, surrounded by hæmorrhagic extravasation, and marked by superficial puckering of the pulmonary pleura: about one inch below existed another mass of similar size, surrounded by a number of miliary tubercles, besides two or three smaller masses, all enclosed by condensed tissue, and marked by superficial puckering. In the apex of the right lung of the same patient, there was a mass equal in size to a sixpenny piece; its circumference was firm and putty-like, its centre soft and pus-like; it was enclosed in a distinct cyst, which was thick, tough, and cream-coloured; surrounding it there was neither condensed tissue nor hæmorrhagic extravasation. Under the microscope, the cream-like central matter presented the characters of tubercle and serofulous pus, and contained irregular granular bodies, such as are usually described as "tubercle corpuscles" (but which I cannot consider as pathognomonic of tubercle, inasmuch as they vary greatly in appearance, and exist equally in many other disintegrated solids and fluids), pus-corpuscles, cylindrical ciliated bronchial epithelium, compound granular bodies, and molecular *débris*. In another case, I found a few calcareous concretions in the apices. Slight puckerings were comparatively common at the apex and anterior margins, probably connected, in the former case, with old tubercle, in the latter with collapse and emphysema. In several cases, the costal and pulmonary

Pleura were adherent, either by delicate lax areolar tissue, or by firm fibrous bands: the adhesions were general, or at particular points; in the latter case, the diaphragm and apex were the chief seats. In one case only was there ecchymosis of the pleura pulmonalis and pleural surface of the diaphragm: it was in the form of large dark purple patches.

Abdomen. Liver. The weight varied from 2 lbs. 3 oz. to 4 lbs. 3 oz., the average being 3½ lbs. In many cases, it was congested more or less with dark blood, the seat of engorgement being the large veins more than the small venules; in a few exceptional instances, it was pale and anæmic; occasionally its surface was mottled, portions being alternately dark and pale. It was sometimes enlarged, at other times small, and showing a tendency to lobulation and irregularity of surface. Occasionally its upper surface exhibited milky opacities similar to those occurring in the heart: sometimes these were connected with abnormal adhesions to the diaphragm. Its epithelium was frequently more or less loaded with oleo-albuminous granules, sometimes to such a degree as to entitle the hepatic parenchyma to the designation of *fatty*; frequently also it was hazy or granular, without showing distinct oil-globules. The biliary ducts have been described* as much enlarged, and filled with thick green bile, which was also infiltrated into the surrounding parenchyma. The condition of these canals I did not closely examine; but, casually, they did not, on any occasion, appear to me to be abnormally dilated. The gall-bladder was usually turgid, projecting prominently beyond the free margin of the liver. In almost every case, it was comparatively full of, or distended with, bile, apparently normal in colour and consistence. The application of the microscope and reagents corroborated this naked eye test of its condition, or found slight modifications only to exist. It was generally of a deep grass-green colour, frequently viscid and stringy, probably from inspissation; sometimes very fluid, and of a brownish tinge. In its sediment, the microscope seldom failed in detecting oil-globules and cylindrical epithelium. The existence of the latter has given rise to the belief by some that there is a vital desquamation of the epithelial lining of the gall-bladder; but, as in the *post mortem* contents of the intestines, this phenomenon is more probably merely the effect of mechanical maceration. When diluted, the bile usually gave the healthy reaction with nitric acid, viz., in a test tube, from below upwards, zones of red, purple, blue, and green, with an infinitude of intermediate shades and mixtures. Heat and acid developed a beautiful purple, which rapidly became decolorised, or passed into brownish purple, brownish red, or brownish yellow, according to the quantity of bile, proportion of acid, and degree of heat. In one case, in the bile evacuated from the gall-bladder, after standing a night, I found a *gall-stone*, about the size of a boy's pebble. Its surface was irregular and rough; its colour, a dirty yellow; its section showed a crystalline texture, radiating from a central nucleus: its feel was soapy; the nucleus was friable and granular, of a reddish orange; round this was a zone of brownish red (biliary resin), while the circumferential zone was yellow. Under the microscope, its basis was found to be cholesterine.

Kidneys. These varied in weight from four to seven and a half ounces each; the average being five and a half ounces. They also differed considerably in size and colour, being sometimes enlarged and congested with dark blood, at other times, small, flaccid, and anæmic, even in cases fatal in collapse. In few cases was the superficial vascularity normal, but the polygonal bright vascularity had given place to the dark stellate injection. The surface was usually smooth, sometimes rough and granular; the capsule generally stripped off easily, and was seldom to any extent adherent, so as to tear portions of the cortical substance of the kidney with it. In several cases, they exhibited various stages of commencing Bright's disease; that is to say, there was pale-

ness of the cortical substance, gradual disappearance of its striae, breaking up of the bases of the pyramids, deposit of miliary granulations or cream-coloured specks in the cortical substance, roughness and granularity of the surface, irregular adhesions of capsule, substitution of the irregular stellate venous vascularity for the polygonal capillary injection, and loading of the epithelium with oleo-albuminous granules. I have never seen an advanced form of this disease in cholera: even in its earlier stages it is comparatively rare. In two cases, only, was this organ the seat of *waxy* degeneration as marked by the translucent edges, consistence, density, and appearance, and this only to a slight extent. In one case, there were a few minute patches of ecchymosis on the surface below the capsule; in another, the subjacent cellular tissue on the right side was the seat of a considerable amount of ecchymosis. In one instance, I met with a tendency to the lobulated condition of the kidneys of the lower animals: in another, the surface was marked by a number of cup-shaped indentations, which appeared to be the cicatrices of minute cysts. The striae of the cortical and pyramidal substance were sometimes rendered very dark and distinct by venous congestion. Some authors state that a white opaque mucous fluid exudes from the pyramids on pressure, and is sometimes also found in the calyces, pelvis, and *tubuli uriniferi*: that the latter are gorged with imperfectly developed epithelium, loaded with oleo-albuminous granules: that these phenomena are chiefly met with in the typhoid stage, and are often accompanied by general enlargement of the organ; and that, in these features, the condition of the kidney, in certain stages of cholera, resembles that following scarlatina, typhus, and other acute diseases.

Spleen. This organ varied in weight from three to seven ounces; the average being four ounces. It exhibited no morbid peculiarities; but was sometimes large, firm and congested with venous blood, at other times small, flaccid, and anæmic. In the latter case, the trabeculae were usually very distinct. The capsule was sometimes easily removed, at other times firmly adherent; it was occasionally thickened and tough, and the seat of milky opacities similar to those occurring on the surface of the liver and heart. Where flaccid and anæmic, the surface was sometimes puckered, apparently indicating the rapid draining away of its blood.

Pancreas. I am not aware that any morbid condition of this organ has ever been described in connexion with cholera; but it is probable its pathology has seldom or never been the subject of investigation. Its condition would be interesting in reference to the presence of oil and fat in the *fæces*. All I can say is, that, like the other viscera, it was sometimes large and contained a considerable amount of dark blood, and at other times was small, shrunk, pale, and anæmic.

Urinary bladder. This was frequently contracted to various degrees, and its interior corrugated; it was comparatively seldom the seat of hyperæmia or ecchymosis; when it was so, the increased vascularity generally surrounded its neck. According to the stage of the disease, it was either quite empty, or contained a few drachms to an ounce of turbid urine, which usually had a flocculent sediment and an ammoniacal odour. This sediment was found to consist of epithelium and other elements of the mucous and other coats of the viscus, disintegrated apparently by *post mortem* maceration. The urine, removed after death, generally resembled that passed in the same stage during life, with the exception that it was more turbid and opaque, of higher specific gravity, and possessed the sediment above mentioned: its microscopical characters and chemical reactions were otherwise the same.

Uterus. It was seldom or never externally the seat of hyperæmia or ecchymosis. Its interior was sometimes much congested and lined by dark bloody mucus; at other times, this mucus was gelatiniform and of a brownish-yellow colour. I met with the following co-existing conditions or lesions:—abnormal smallness of cavity [in an unmarried female]; induration, thickening, fissures, and discoloration of the os; retroversion; and mucous polypi of cervix of a dark bloody tinge.

* Schmidt on the Cholera in Leyden.

The broad ligament was occasionally the seat of dark purple ecchymoses.

The vagina, in one case, was rough, and the mucous membrane white, opaque, and covered with white curdy flocculi, resembling a surface affected with diphtheritic inflammation.

The Fallopian tubes were more frequently than any other part of the uterine system congested and ecchymosed—the blood being frequently extravasated in the form of zones or rings. In two cases, gelatiniform cysts were developed at their extremities, containing yellow glutinous matter, so viscid as to require considerable force for its extrusion. In the ovaries were frequently found patches of hæmorrhagic extravasation, seated on the surface or in the centre of old corpora lutea. In some cases, they were shrunk, atrophied, and hard; in others, they were the seat of cystic degeneration. The cysts varied in size, in the thickness of their walls, and the colour and consistence of their contents. The largest I saw was the size of a walnut, and contained a dark claret-coloured fluid; others were smaller, and contained a gelatiniform mucus.

[To be continued.]

Crichton Royal Institution, Dumfries, April 1854.

CASE OF HERNIOTOMY.

By JOHN MCINTYRE, M.D.

[Read at the Reading Pathological Society, April 12th, 1854.]

JAMES COOPER, aged 67, had been the subject of reducible femoral hernia for some time, but had paid no attention to it, having no idea what it was. It came down occasionally, and usually disappeared on his assuming the horizontal posture.

On Saturday night, December 17th, he slipped up on the ice, but felt no inconvenience from the fall at the time. On Sunday morning, he had pain in his bowels, and vomited; and sent to my surgery in the evening for something to ease him. A calomel and opium pill was sent, with an anodyne carminative mixture. These he took; and I saw him on Monday forenoon. He was then quite easy; the abdominal pain and the vomiting having disappeared soon after the medicine was taken. He said he had in the left groin a swelling, which I found to be of the size of a small walnut, soft, slightly elastic, free from pain, even on the surface, and occupying the situation of femoral hernia. No appreciable impulse was communicated to it upon coughing. There being no doubt as to its nature, I at once endeavoured to reduce it by the taxis; but, failing to do so, ordered him a pill, containing a grain of opium, every hour. At 10 P. M., he had taken six pills, but was scarcely at all under the influence of the medicine. No pain nor vomiting had recurred; the tumour continued much the same; and he expressed himself as feeling very comfortable. Doubting in some measure whether strangulation now existed, I ordered him some aperient medicine, to be taken at intervals of three hours. He took two doses, after each of which he vomited largely a green mucous fluid; and took no more.

Dec. 20th. In the morning, I saw him, and ordered the opium to be again repeated in doses of one grain every hour. I now discovered that he had only had one grain divided into six pills the previous day, instead of the quantity ordered. It was now given correctly; and at 7 P. M. he had taken six grains, and was then only slightly narcotised. I did not consider it prudent to wait longer for its action; I therefore at once administered chloroform to full anæsthesia, and gave the taxis a fair and persevering trial for half an hour. It made the tumour slightly smaller, and more relaxed, probably from the displacement of some air; but no reduction sensible to the finger had taken place. As the symptoms were very mild indeed, his pulse being quiet, the abdomen flaccid, and no retching or vomiting being present, I ordered the opium to be repeated for two hours, and ice to be applied to the tumour. I then

again saw him. The tumour was now more distended than it had been, and slightly tender when pressed; and his countenance gave evidence of greater discomfort. Being convinced, from the small impression that coughing exerted on the tumour, that the stricture was tight, I deemed it unsafe to try the taxis further, and proposed operating, to which he willingly acceded.

The operation was done in the usual way, by the inverted T incisions. The sac was dark, and contained about a drachm of bloody serum. The stricture was divided in the usual position; but so tight was it, that I had great difficulty in inserting the point of the hernia knife under it. The contents were a knuckle of small intestine, of a purplish hue, very slightly roughened on the surface from recent fibrinous effusion. On withdrawing it a little, the point of constriction was readily discovered; but no injury to the coats had taken place. On gently replacing the intestine in the abdomen, about four drachms of serum, slightly tinged with blood, were discharged. Not more than three drachms of blood were lost during the operation, and no vessel required ligature. He immediately felt relieved. The wound was united by two or three points of suture, a compress and bandage applied, and he was placed in bed. The pulse was 70.

Dec. 21st. He had passed a good night, and felt comfortable. There had been no pain or vomiting. The pulse was 72, moderate in strength, and occasionally intermitting. The tongue was moist and furred; he was rather thirsty. The skin was comfortable. He had passed urine twice. The bowels had not acted. He was ordered to have a large enema of gruel, and the following mixture:—

R Magnesiæ sulphatis ʒiv.
Sodæ sesquicarbon. ʒj.
Aquæ menthæ piperitæ ʒvj. M.

Fiat mistura, cujus sumantur cochlearia ij amplia 4tis horis.

He was ordered to have broth, gruel, and tea, as food.

8 P. M. He had had a teacupful of broth, and had been eating raw apples. The bowels acted freely three times from the enema. He had vomited thrice, and now felt sick. He complained of uneasiness round the upper part of the abdomen, which was rather distended from flatulence. There was no pain at the wound, or at the lower part of the abdomen. The skin was hot; the tongue as before. He was still thirsty. The pulse was 72, intermitting at every fourth beat; but no valvular or other heart lesion could be detected by the stethoscope. He was ordered to take a calomel pill at once, and four drachms of castor oil an hour after.

Dec. 22nd. The oil was rejected about twenty minutes after it was taken, and the nausea and uneasiness continued. I was called to him at four o'clock this morning, on account of vomiting and severe pain at the scrobiculus cordis, the result, I believe, of another dose of the aperient mixture that had been given to him at 11 P. M. by my assistant. A calomel and opium pill was then given, and ordered to be repeated in two hours. He had in consequence some quiet sleep, and was, at 10 A. M., free from pain. No vomiting had occurred, and the bowels had acted spontaneously at 8 A. M. The pulse was 78; the tongue was moist and somewhat furred. He was rather thirsty. He was ordered a calomel and opium pill every four hours, and ice to suck *ad libitum*.

Dec. 23rd. He had passed a comfortable night. The bowels had not acted, but he felt that they shortly would. The abdomen was flaccid, and free from pain. The pulse was 90, weak, and still intermittent. I undid the bandage; the wound looked well. The pills were omitted.

6 P. M. The bowels had acted four times; the last motion was "bloody and slimy". The abdomen was very collapsed; otherwise, he remained in the same state. The following medicine was prescribed:—

R Tincturæ opii ʒss.
Sodæ sesquicarbon. ʒj.
Mucilaginis ʒj.
Aquæ ʒv. M.

Fiat mistura, cujus capiat cochlearia ij amplia quartis horis.