

FITZ. (R.H.)

BOSTON MEDICAL LIBRARY ASS'N,
DUPLICATE SOLD.



RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY R. H. FITZ, M. D.

PATHOLOGY.

Diabetes. — A contribution to the statistics of this affection is presented by Andral.² More than eighty-four cases had come under his charge, and an analysis of these showed that the disease was of rare occurrence before the age of twenty years. It then gradually became more common, reaching its maximum of frequency between forty and fifty years, though frequent during the subsequent twenty years. It became exceptional at a later period in life.

In twelve instances the disease began before the age of thirty; in forty cases, between thirty and sixty years; in eight, between sixty and eighty years. The male sex is more prone than the female, fifty-two cases occurring among the former, and thirty-two among the latter.

The influence of the nervous system as a cause of the origin or aggravation of the disease was evident in many cases. A violent impression upon the nervous system was often followed by the presence of sugar in the urine, and in one case, after a moral shock, the amount of sugar was increased from five drachms to three ounces in about twenty-eight ounces of urine.

One patient became diabetic after inhaling ether for its intoxicating effect for several months; another, after disturbances of sensation, anæsthesia, and other nervous affections. One patient was previously epileptic, another paraplegic. In one case the diabetes was preceded by a blow upon the lower part of the occiput; in another a concussion of the cervical region, resulting from a fall, had occurred. In these two cases the injury to the cerebro-spinal axis was received near the parts to which Bernard calls attention.

A lack of sufficient food was a cause in one case. Three patients had lived solely upon bread and potatoes before they became diabetic. Many became diabetic also who had eaten meat and cheese in addition to an abundant diet of bread and potatoes. In general, the well-to-do classes were more affected than the poor. The previous history and

¹ Reprinted from The Boston Medical and Surgical Journal, October, 1875.

² Allgemeine medicinische Central-Zeitung, 1875, lxx. 858; from Annales et Bulletin de Medecine de Gand, 1875, lii. 5me Série.

Report from the Boston M. & S. J. - 1875 -
Vol. 93 - pp. 469 & 496 -

appearance of the patients frequently suggested the idea that the disease might be due rather to an excess of nutriment than to its lack. This view, shared also by Bernard, is supported by the fact that the sugar disappears from the urine during the last days of life.

The disease may occur suddenly, during apparent good health. Again it was observed in four dyspeptic, eight phthisical, and five asthmatic persons; further, in connection with heart disease, renal colic, and in convalescence from typhoid fever and cholera.

Diabetes may cease momentarily at the outbreak of an acute disease, as was illustrated in a case of febrile angina, and in one of dysentery. The disease may at times be hereditary; sometimes several children in one family may suffer, the parents being free.

The simultaneous occurrence of sugar and albumen was observed only three times in the eighty-four cases. The quantity of the sugar in the urine varied; several patients passed fifteen ounces of sugar in the twenty-four hours, and one over two pounds in the same time. This was not dependent upon the food, and the treatment had often no influence upon the amount of sugar passed. At times the affection lasted for years without any considerable general disturbance; again it pursued an acute course, and death occurred within a few weeks after the beginning of the disease.

The sugar may suddenly disappear, an incident observed in five cases; in four of these the recovery remained permanent, in the fifth epilepsy came on after the disappearance of the sugar.

In almost all the cases the capillary circulation was more altered than in other chronic diseases. This was indicated by the red and swollen gums, injected conjunctivæ, boils, and passive congestion of the lungs, the frequent cause of death. In four cases gangrene was present; of the lungs in one instance, of the extremities in three.

Neither the saliva nor the other secretions showed any alteration.

The change constantly found at autopsies was a congested condition of the liver and kidneys, thought to be due to an increased function of these organs. In almost all cases there was a peculiar density to the spleen, its parenchyma was dry, and beginning tubercles were found in the lungs. These tubercles were regarded as developing under the influence of the debility following the diabetes.

As further evidence of a neuropathic origin for diabetes, the case reported by Mosler¹ may be referred to, where an inflammatory nodular affection of the left cerebellar hemisphere was found. The patient, a man aged thirty-five, always feeble, had suffered from great hebetude, increased hunger and thirst, and the evacuation of large amounts of urine for two and one half years. The legs had been swollen for a year, and cough with stabbing pains in the thorax had troubled him

¹ Deutsches Archiv für klinische Medicin, 1875, xv. 229.

for some weeks. At his entrance into the hospital the sensitive functions, motion, and sensation were completely normal. He died seventeen days afterwards. The inflammatory nodule was of the size of a pigeon's egg; though regarded as the probable cause of the diabetes, no evidence could be obtained as to its origin. It is asserted that every injury to the tracts of vaso-motor nerves¹ may produce diabetes. It is considered that the hepatic vaso-motor nerves are paralyzed, dilatation of the hepatic vessels follows, whereupon an increased flow of blood to the liver and an increased production of sugar result. Diabetes has hitherto been observed after injury to the superior and inferior cervical, and to the superior thoracic ganglia of the sympathetic; further, after every section of the spinal cord from the medulla oblongata to the lumbar vertebræ, where vaso-motor nerves are everywhere present, in part in the tracts of the cervical and thoracic sympathetic, in part in the splanchnics. Mosler regards as favoring his theory of this case Eckhard's statement that diabetes occurs after injury to the vermiform process of the cerebellum of rabbits.

Bernard discovered that ligation of the portal vein is followed by diabetes, and obstruction of the portal vein from pathological causes has been found to be attended with the same condition. MM. Colrat² and Couturier³ thought that in persons suffering from cirrhosis, there might be present a sufficient degree of obstruction to the portal circulation to give rise to diabetes. Four individuals suffering from this disease, the diagnosis being subsequently confirmed by the autopsy, came under observation. The urine was collected while the patients were fasting, also during the period of digestion. The latter alone always contained a greater or less quantity of sugar. The urine of healthy persons under similar circumstances gave negative results. The addition of large amounts of sugar to the diet made no difference. These observations are of interest in connection with the experiments of Seelig, referred to by Dr. Bowditch.⁴ It is mentioned also that in two cases where a diagnosis was doubtful, the absence of glycosuria enabled the writers to eliminate the idea of a cirrhosis of the liver; the autopsy showed in the one a tuberculous peritonitis, in the other abdominal cancer.

Typhoid Fever.—The period of incubation of this disease was observed by Quincke⁵ in an epidemic occurring under peculiar circumstances. A number of people coming from parts free from typhoid fever met together at a fair, where they had the opportunity of receiv-

¹ Vide Report on Physiology, by Dr. H. P. Bowditch, in the JOURNAL, July 23, 1874.

² Revue des Sciences Médicales, 1875, xi. 139; from Lyon Médical, 1875, xv.

³ Revue des Sciences Médicales, 1875, xi. 139; from Thèse de Paris, 1875, No. 209.

⁴ Loc. cit., page 84.

⁵ Berliner klinische Wochenschrift, 1875, xxiii. 321; from Correspondenz-Blatt für Schweizer Aerzte, 1875, No. 8.

ing the germs of this disease probably in contaminated drinking-water. In seven cases the disease occurred within from twelve to sixteen days after the visit ; in another equal series within from eight to twenty-two days. Another lot of five cases more closely resembled the first series. It seemed further as if the mode of reception of the poison was of influence with reference to the time of incubation. In two cases not belonging to the series mentioned, it was stated to him that the poison had probably been received through inhalation, the patients, boys, having played in infected straw. The period wavered in one case between three and nine days ; in the other between one and fifteen days.

The appearance of the brain in typhoid fever has never been regarded as sufficiently explanatory of the grave cerebral symptoms so frequently occurring. The recent histological investigations of Popoff¹ have thrown additional light not only upon the anatomy of this disease, but also upon the pathological processes taking place in the brain. The brains from twelve cases of typhoid fever were examined, and the changes to be referred to were constant. The cortex was infiltrated with small cells resembling lymph corpuscles or the granules of the neuroglia. These were generally grouped in a definite manner, corresponding in form to the arrangement of the nerve-cells, and were often seen to lie around or upon them. Under a high power it was evident that these corpuscles were accumulated within the lymph-spaces surrounding the nerve-cells. Occasionally it was observed that the round cells were inside the body of the ganglion-cell. It was considered that the round cells were wandering cells, which, by virtue of their contractility, had penetrated the substance of the nerve-cell. The ganglion-cells were probably not passive in the process, as a division of their nuclei was evident in various stages. This same division was also observed in nerve-cells which did not contain the wandering corpuscles. Evidence of a division of the body of the cell was also found, and appearances were seen which suggested a breaking up of the ganglion-cells through the entrance of the round cells.

The wandering cells were also found in the peri-vascular spaces, and immediately outside of them in the brain. In the latter they were found along the course of nerve-fibres, especially where these are grouped together as in the corpus striatum and optic thalamus.

Experiments on animals showed that essentially the same alterations could be produced by exciting an inflammation through chemical or mechanical means. When finely divided pigment was injected into the brain it was taken into the ganglion-cells, and a comparison of the results of the injection of the pigment into dead and living brains led to the conclusion that the ganglion-cell was capable of contracting and thus of receiving the pigment within its body.

¹ Virchow's Archiv, 1875, lxiii. 421.

Typhus Fever. — Popoff¹ has more recently examined the brains of three persons dying of this disease. Similar changes to those observed in typhoid fever were noticed; but still more interesting and striking was the formation of little nodules in the cortex of the brain and cerebellum, in the corpus striatum and lenticular body. Under a low power they looked very like miliary tubercles, and very frequently were found next to vessels. They were composed mainly of agglomerations of round cells not to be distinguished from wandering lymph-corpuscles. In certain places these nodules consisted only of such cells; elsewhere there were also elements resembling the nuclei of ganglion-cells, and at times nerve-cells were found imbedded within the mass of indifferent cells. A proliferation of the nuclei of the ganglion-cells, and the presence of round indifferent cells within their bodies, were also observed at the periphery of these nodules, suggesting as probable a direct participation of the ganglion-cells in their formation. The nodules, composed mainly of indifferent cells, were usually found at the periphery of the brain and cerebellum. They were often found as infiltrations of the walls of the blood-vessels and the neighboring tissue, thus giving a further resemblance to tubercles. There was, however, no central degeneration, no giant-cells, nor special stroma. In character and origin they were analogous to the nodules found by Wagner in the liver and kidneys of typhoid fever. They were found in two of the cases only, and in these the cerebral symptoms were very marked, — delirium and cramps, followed by coma and stupor. The patients were young, twenty and twenty-two years of age; the duration of the disease, fourteen days. The case where no nodules were found presented mainly symptoms of excitement, and the duration of the disease was but ten days, the patient being thirty-seven years old.

Aneurisms. — Professor Köster¹ spoke to the Lower Rhine Society, at Bonn, with reference to the origin of aneurisms. The commonly accepted idea that these are due to chronic endarteritis and its metamorphoses, the so-called atheromatous condition, was objected to on the following grounds: (1.) Aneurisms may occur on otherwise healthy arteries. (2.) The atheromatous disease is exceedingly common in Germany, but aneurisms are rare. (3.) The inner coat of small arteries is too thin to offer any special opposition to the blood pressure, and were it diseased or destroyed there is no reason for a protrusion of the wall of the artery. Finally, (4) aneurisms are most common in middle life, while the atheromatous condition is a disease of old age. Köster examined large and small depressions in the walls of the aorta and of other arteries. Like Helmstedter, he found numerous light spots in the middle of the muscular coat, which were regarded as inflamed spots with a growth of connective tissue such as

¹ Berliner klinische Wochenschrift, 1875, xxiii. 322.

occurs in cirrhosis of the liver. They contained blood-vessels and were connected with the external coat by a bridge, in which were arterial and venous vessels. He thought that the inflammation of the vessel-wall began in the outer coat, around the nutrient vessels; thence extended into the muscular coat and became diffused there, corresponding with the capillary distribution of the *vaso vasorum*. The inflammatory changes may reach the inner coat when the nutrient vessels extend into the latter, as is sometimes the case. Under such conditions the intima is often thickened. We have thus a spotted, chronic inflammation of the middle coat; its elastic fibres and muscle-cells are destroyed, and eventually the inner and thickened outer coat become united into a single vascular membrane of homogeneous histological structure. Such parts become protruded and represent the aneurism.

PATHOLOGICAL ANATOMY.

Congenital Syphilis.—Of late years, very valuable contributions to the pathological anatomy of this disease have been made, some of which suggest points of marked interest to the practitioner, with reference both to diagnosis and to treatment. Enlargement of the spleen had occasionally been observed, but Bärensprung¹ called more direct attention to this condition of the organ. He attributed the change to a disturbance in the portal circulation in consequence of the well-recognized changes in the liver. Gee² then published a paper giving the result of his observations relating to the enlargement of the spleen in hereditary syphilis. He believed that in about one fourth of all cases of hereditary syphilis the spleen was enlarged, and that the degree of its enlargement might be regarded as a means of measuring the syphilitic cachexia. Most cases in which there was a decided enlargement terminated fatally.

Numerous observers since then have noted the splenic enlargement, without, however, attaching the same weight to it. Fränkel³ again calls attention to the subject, and Birch-Hirschfeld⁴ has made it the subject of special study in the light of other recent investigations. This observer based his conclusions upon the examination of thirty-two syphilitic infants. He found, so constantly, considerable increase in the weight of the spleen in these cases, that he stated that one could scarcely err in expecting to find other evidences of syphilis where the marked alteration of the spleen was present. The microscopical examination of these spleens gave no appearances differing from those occurring under normal circumstances. When the fœtus was born in a macerated

¹ Die hereditäre Syphilis, 1864, page 75.

² British Medical Journal, 1867, page 435; from Virchow and Hirsch's Jahresbericht for 1867, ii. 555.

³ Ueber Placentar Syphilis. 1873.

⁴ Archiv der Heilkunde, 1875, xvi. 173.

condition the spleens were very soft and of a dirty violet color on section. If the child was still-born, or if it died soon after birth, the spleen was of increased density, of a dark brownish color, presenting the indurated form; or again, the organ might be soft and pale.

Unquestionably of far greater importance is the discovery by Wegner¹ of certain changes in the cylindrical bones found at the junction of the shaft with the epiphysis, and at the border between the bony and cartilaginous portions of the ribs. He has described three stages in the process, to which he has applied the term syphilitic osteochondritis, and he states that the one or the other is of almost constant appearance in cases of congenital syphilis.

In the first stage, instead of the normal, sharply defined, horizontal or curved line on longitudinal section, indicating the direct transition of hyaline cartilage into bone, there is found a layer two millimetres wide, with an irregular border on both sides. This layer or zone is soft and brittle, of a glistening white or reddish-white color, and of a denser, more homogeneous appearance than the neighboring reddish bony cancellated structure. These appearances result from a proliferation of the cartilage cells and a delay in the conversion of calcified cartilage into bone.

In the second stage the intervening layer is twice as wide as that above mentioned; its border towards the cartilage is extremely irregular, presenting numerous projections varying in length, breadth, and contour, sometimes connected by transverse lines so that islets of cartilage seem to be inclosed. A similar condition exists towards the bone, though less marked. The layer of cartilage bordering on the bone is soft, of a bluish transparent appearance, as in rickets. The microscopic changes are a greater proliferation of cells, an abundant development of vessels, towards the bone imbedded in a fibrous tissue, the intervening cartilage thickened and condensed, containing osteoid tissue, even streaks of true bone; towards the spongy portion of the diaphysis, calcified cartilage is present, indicating a delay in its transition into bone tissue.

In the third stage, the articular ends of the bones and the ribs at the junction of bone and cartilage become enlarged. The adjoining parts of the cartilage are blue, transparent, moist, and project on section. Bordering upon this is an opaque, grayish-yellow layer, dense and homogeneous, from two to four millimetres in width, which is limited above and below by an irregular, jagged, and rounded line.

Though this layer feels hard, it is brittle and easily crumbled. Below it is an irregularly bounded layer, grayish-red or grayish-yellow, soft, at times almost fluid, which is gradually lost in the spongy bone tissue. In consequence, the union between the diaphysis and the cartilaginous

¹ Virchow's Archiv, 1870, page 305.

epiphysis is loosened, the parts are movable with a slight degree of crepitation, and may even fall apart if the periosteum is cut through. The adjoining cancellated tissue of the shaft contains a gray or reddish-gray marrow resembling granulation tissue. Wegner has noted the following relative frequency of the process in the various bones. It is most often found in the lower end of the femur; then the lower end of the bones of the leg and fore-arm, the upper end of the tibia, the upper end of the femur and fibula; then the upper end of the humerus, that of the radius and ulna, and rarest of all in the lower end of the humerus.

Waldeyer and Köbner¹ corroborate this discovery, and call attention to the fact that the gross appearances may be extremely slight, while with the microscope characteristic anomalies are found. They mention the incomplete formation of the osteo-blasts which form an almost continuous epithelial-like layer in normal ossification. They urge that as this disease is of constant intra-uterine origin, therefore its existence enables one to discriminate between cases of hereditary and acquired infantile syphilis. Further, it is absolutely diagnostic where the fœtus is a macerated one, in which often visceral changes cannot be found. This consideration may be of value in enabling one to recognize aright obscure diseased phenomena on the part of the parents. Another inference, at present of relative weight only, owing to the limited number of exact observations, is that the change seems to be independent of the treatment of the mother previous to or during pregnancy.

Birch-Hirschfeld² confirms the constancy of the occurrence of this syphilitic osteochondritis, though he cannot consider that its absence excludes the possibility of the presence of syphilis. To the descriptive appearances of Wegner he adds that when the epiphysis is separated from the shaft the line of fracture presents irregular bits, is jagged; while when the normal bone is treated in the same manner, the cartilage is separated smoothly from the bone.

Oedmansson and Winckel have called attention to the existence of a stenosis of the umbilical vein within the cord of certain macerated fœtuses, the death of the fœtus being attributed to this condition. The former observer considered the alteration in question as belonging to the atheromatous process. Birch-Hirschfeld objects to this conclusion on the ground of an examination he had made where a very decided stenosis of the umbilical vein was found. He regards the condition analogous to that occurring in arteries as the result of syphilis, described by Heubner. At the same time the change is rarely found in macerated fœtuses in which marked syphilitic changes in the bones are present. Further, it was found on several occasions in macerated fœtuses where no alteration of the epiphyses was present. If this affection of the vessels, therefore, is to be regarded as a result of syphilis, the osteo-

¹ Virchow's Archiv, 1872, lv. 367.

² Loc. cit.

chondritis cannot be regarded as an absolutely constant sign of the disease.

Birch-Hirschfeld describes changes in the pancreas which he frequently found in cases of congenital syphilis. Similar alterations had previously been observed, though no special weight had been attached to the same. He examined the pancreas from the bodies of seventy-three newly-born and still-born infants. In twenty-three of these cases the syphilitic osteochondritis was present, and in thirteen of these the pancreas was found diseased, it being normal in the non-syphilitic children. Of the twenty-three cases ten were macerated fœtuses, and of these two only had an abnormal pancreas. Of the remaining thirteen infants, born alive or dying during birth, eleven presented a diseased pancreas. In the more advanced degrees the organ was decidedly enlarged in all dimensions; its weight may be doubled, the tissue is firm, glistening white on section, the glandular structure indistinct to the naked eye. The microscope showed a high degree of development of the interstitial tissue. This was observed more particularly between the larger lobules of the gland, though it was sometimes found between the individual pouches of the lobule. The latter were compressed, their epithelium atrophied. The vessels in the interstitial tissue were sparse, their walls thickened. This extreme degree was present in seven cases. In six the alteration was less evident to the naked eye, though the organ was enlarged, the lobules somewhat indistinct, the density increased, and the color pale. The interstitial tissue-changes were less marked. The changes in the microscopical appearances, though less in degree than before, were still distinctly different from those of the normal pancreas. The head of the pancreas presented more marked alterations than the tail. This interstitial degeneration is analogous to the interstitial changes occurring in the liver. It seems probable that it develops late in intra-uterine life, as the macerated fœtuses rarely presented it. The most extreme instance was found in a child who had died five months after birth. The question naturally arose whether the frequent cachexia of children born with syphilis is not in part due to the disturbance of digestion probably resulting from this change.

Embolism of the Superior Mesenteric Artery. — Litten¹ endeavored to ascertain by experiments on dogs the cause of hæmorrhagic infarction in cases where an embolus had become fixed in the mesenteric artery, since this vessel is not a terminal artery, in the sense of Cohnheim.² A ligature was placed around the trunk of the artery, and the animals died within forty-eight hours, with great prostration, loss of appetite, occasional vomiting, offensive, bloody, tar-like dejections, associated with

¹ Virchow's Archiv, 1875, lxiii. 289.

² Vide the JOURNAL, October 24, 1872, page 281.

a falling of temperature and with tympanites. Putrefaction was rapid, and in certain cases a purulent and hæmorrhagic peritonitis was present. The distended coils of the small intestine from the lower part of the jejunum, and the upper part of the large intestine were of a dark, reddish-black color, lustreless and œdematous. The mucous membrane was of the same color, and covered with a bloody secretion. The serous coat presented occasional vesicular elevations. Extensive hæmorrhages were found between the coats of the intestine. Peyer's patches were swollen and hæmorrhagic. The mesentery corresponding to the region affected was opaque, dotted with numerous hæmorrhages. The mesenteric glands were swollen, at times thoroughly infiltrated with blood. The mesenteric veins were distended with fluid blood. These appearances represent the combination to which the term hæmorrhagic infarction is applied. Ligature of the trunk beyond the uppermost branches produced similar changes, though not so marked in the upper part of the jejunum. The ligature of single branches produced no effect, but when a group of arteries proceeding to a limited portion of intestine was tied, a corresponding limited infarction occurred. The circulation thus cut off did not return, and the conclusion was drawn that the function of this artery is that of a terminal one. This, however, is in direct opposition to the well-known anatomical communication between the superior mesenteric, the pancreatico-duodenalis, and the inferior mesenteric arteries.

Assuming that the cessation of the blood-current must be due to an alteration of the blood-pressure or to a change in the resistance of the vessel-wall, he learned that physiologically the resistance could not be strongly diminished nor the blood-pressure decidedly increased. By means of a forced injection, however, he was able to push the fluid injected into the region of the obstructed artery, but the animal died before this end was accomplished. It therefore resulted that to reëstablish quickly the circulation in the obstructed region such a pressure is necessary as never occurs under ordinary conditions; hence the function of the artery is that of a terminal one.

There is thus no essential distinction between the superior mesenteric artery and the other large arterial trunks, excepting the anatomical terminal arteries. The practical point is the period at which the collateral circulation is established, and the length of time that the part can get along without a supply of fresh blood; and these vary considerably with the different arteries.

The writer then presents a series of sixteen recorded cases of embolism of the superior mesenteric artery. A comparison of these with the results of experiment shows a very close resemblance, there being at the most modifications in the time of the occurrence of destructive processes in the intestine.

Experiments made upon the cœliac and the inferior mesenteric arteries showed in no case extensive lesion or necrosis. The recorded cases of embolism of these arteries furnish a similar result; hence their branches are not to be regarded as terminal, either functionally or anatomically.

Cirrhosis of the Liver in Children.—Two such cases are reported by Dr. Cazalis,¹ the patients being girls aged seven and nine years respectively. They entered the hospital with ascites, slight œdema of the legs, and considerable dilatation of the abdominal veins. Both children had been ailing for some time, though the abdominal swelling had been noticed for a few weeks only.

Albuminuria was present in one case, slight jaundice in the other; in neither was there any heart-disease. During treatment the children suffered from attacks of acute peritonitis; as the fever subsided the ascites increased rapidly, and tapping was finally resorted to. The one child soon died of pneumonia, erysipelas about the puncture, and gangrene of the vulva. The other died from subsequent peritonitis.

The livers were found extremely atrophied, that of the elder girl scarcely of the size of the fist of an adult; both were finely lobulated, resembling on section an ordinary gin-drinker's liver. The spleen was enlarged in both cases, that of the elder child very much so.

But little information could be obtained concerning the previous history of the younger child. Well in 1870, she suffered from cold and hunger during the German siege of Paris. The parents of the elder girl were temperate, and presented no evidence of syphilis; their child had measles at the age of three, and often complained of her stomach since. During the three years previous to her death she had frequent nose-bleed. When seven years old she had a mucous (typhoid?) fever; from this time her belly began to enlarge. She suffered from indigestion, diarrhœa, and occasional slight tenesmus. Her abdomen became larger during an attack of jaundice lasting two months. The girl had never had intermittent fever. She had lived most of her life in a damp basement.

Dr. Cazalis considered that cold and damp might be deemed an important element in the development of cirrhosis in children.

The cases seem to show that this affection may occur in children, independently of heart-disease, syphilis, or the abuse of stimulants.

Exfoliation of the Mucous Membrane of the Bladder.—Mr. Bell² showed the specimen to the Medico-Chirurgical Society of Edinburgh. Three months previous the patient had been delivered of a still-born child; about a month afterwards Mr. Bell was consulted concerning

¹ Medical Times and Gazette, May, 1875, page 472; from Progrès Médical, March 20, 1875.

² Edinburgh Medical Journal, 1875, ccxxxviii. 935.

incontinence of urine. At the mouth of the urethra, which was largely dilated, there was detected what seemed to be a tumor. The fingers could be passed between the bladder and this in all directions. The mass was finally detached and withdrawn. It was found to be the whole mucous membrane of the bladder, coated with phosphates. The patient made a good recovery, though there is still a little incontinence of urine if she walks about much.