PROGRESS

OF

MEDICAL SCIENCE.

MEDICINE.

UNDER THE CHARGE OF

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Chronic Hyperplastic Perihepatitis.—CURSCHMANN was the first to differentiate this condition as a special disease, though as early as 1864 Bamberger described two cases of ascites which he attributed to a compression of the liver by a thick fibrous covering. A number of cases of this disease have been reported, among them the following interesting one by SCHMALTZ and WEBBER. The patient was a woman, aged forty-two years, and without a history of syphilis. The disease began in 1892 with enlargement of the abdomen, following a cold. At that time the patient was very anæmic, and had severe nose-bleed. In January, 1893, ascites was present, the legs were œdematous, and the liver markedly enlarged and sensitive, reaching within a hand-breadth of the pubes. The heart was enlarged, and a systolic murmur was audible over the entire præcordium. Considerable improvement followed the administration of potassium iodide. In January, 1894, the abdomen enlarged again, and the patient was tapped. Ten months passed before another operation was necessary, but after this the tappings were frequent and the amount of fluid removed large—as much as 13 litres. In the summer of 1895 the liver was hard and still large, the lower border being on a level with the navel. From November, 1895, the patient was confined to bed; death occurred in June, 1896. A definite diagnosis was not made during life. The great pain in the region of the liver at the beginning of the disease and its long duration—three and one-half years—suggested chronic perihepatitis. Post-mortem: The upper surface of the left lobe and parts of the right lobe of the liver were closely adherent to the diaphragm. The under surface of the liver was adherent to the peritoneum in front of the right kidney. There were short tendinous, thread-like growths between the under surface of the left lobe of the liver and contiguous parts of the

stomach. The liver on its non-adherent upper surface was covered with a fibrous, white, glistening, porcelain-like coat, resembling frosting. In places the clear, brown liver tissue could be seen. Its borders were markedly rounded, producing a cylindrical shape. Its consistency was slightly increased. The fibrous covering varied in thickness from 5 to 6 mm., and enveloped and strongly compressed the liver. The liver substance was normal, especially free from proliferation of connective tissue, the hyperplasia confining itself essentially to its peritoneal covering. It is important to note that there was no pericardial adhesion and no other severe cardiac disease to account for the alterations in the liver, so the condition was very different from that described by F. Pick under the name of pericardial pseudocirrhosis of the liver. It therefore seems impossible that the perihepatitis could be due to the irritation of a chronic congestion. The authors point out that in the early histories of many of the cases, as also in the one now reported, there was a great enlargement of the liver. They believe that at this time some causes of inflammation arrived in the peritoneum which were ineffective on the major part of that membrane, but on the abnormally tense serosa of the liver were able to set up a chronic inflammation. As a cause of the supposititious invasion there was in the present case an old appendicitis, while as the cause of a temporary congestion of the liver cardiac weakness from repeated hemorrhages seemed certain from the early history. It is a very striking fact that in all cases of this kind hitherto reported the portal radicles do not show the usual changes as they occur, for example, in ordinary cirrhosis. For this reason and on account of the continued ascites the authors believe that some other cause than portal obstruction must be present. This they find in the alteration of a large part of the peritoneum, especially that covering the diaphragm, believing that this must cause more obstruction to absorption from the peritoneum than inflammation in other parts of the abdomen. The clinical course in the present case corresponds with those previously reported, in the fact that after a certain time the disease seemed to become stationary, so that after thirteen punctures it was not necessary to tap again for ten months. The total course of three and one-fourth to four years was shorter than in many other cases, perhaps owing to the previous anæmia and weakness of the patient. Important points in the diagnosis are the acute beginning of the disease, its slow course, and the absence of all severe signs of portal obstruction.—*Deutsche med. Wochenschrift*, 1899, No. 12.

Myoidema in Pulmonary Tuberculosis.—WALSHAM (*The Lancet*, January 27, 1900, p. 230) has made some observations on the occurrence of "myoidema" in 1000 cases of pulmonary tuberculosis. If a point on the chest wall corresponding with the clavicular origin of the pectoralis major be struck in a patient with advanced tuberculosis the phenomenon known as "myoidema" will probably be observed. Myoidema may be divided into two varieties, viz., the fascicular and the nodular. The fascicular is most easily produced. At the point which is struck a sulcus is formed which quickly travels to the origin and insertion of the muscle, where it is lost. In the nodular variety there is formed at the point struck a small, quivering tumor which, after oscillating backward and forward, as if uncertain of its position,

for a second or two, finally comes to rest, and after a few seconds gradually fades away. If the point struck be watched, the initial pallor produced by the blow quickly gives way to redness, reminding one forcibly of tache cérébrale. Both these forms of myoidema may be obtained over other muscles besides the great pectoral.

The phenomenon is not a new one. It was first described by Dr. Stokes, of Dublin, in cases with pulmonary affections. The term "myoidema" was first made use of by a surgeon, the late Dr. Lawson Tait, who wrote a monograph on the subject in 1872. He believed the sign to be diagnostic of pulmonary tuberculosis. Dr. Samuel West had pointed out that the sign was not confined to cases of pulmonary tuberculosis, but showed that it also occurred in other wasting diseases. Jeanselme and Lermoyez claimed that the sign was a physiological phenomenon and could be obtained in healthy individuals. Walsham, however, states that he has never been able to obtain the phenomenon in healtby persons. Sir William Broadbent finds the sign almost always present in early phthisis, and Stokes claims that it is always most evident in the earlier periods.

With the object of settling some of these conflicting statements, Walsham observed 1000 cases of pulmonary tuberculosis, with special reference to this sign. He has never found it in an early case. It only becomes well marked when the wasting has advanced beyond a certain degree. The rule that the more marked the wasting the more marked is the myoidema has few exceptions. He could not confirm the statement made by some, that in unilateral phthisis the sign was confined to the affected side. In very advanced cases with great emaciation, Walsham has often failed to obtain the phenomenon, the pectoralis major apparently being too much wasted to produce it. He thinks that myoidema is nearly valueless as an early sign of pulmonary tuberculosis. It only becomes well marked when other physical signs leave no doubt about the diagnosis of pulmonary tuberculosis.

An Experimental Study in Gout.—FREUDWEILER (*Deutsches Archiv für klin. Med.*, Band lxiii. p. 266) has made an experimental study of gouty nodules, and finds that by the injection of sodium biurate a lesion can be produced which corresponds anatomically with that of true gout. The lesion does not appear to be the result of the action of a simple foreign body, but one due to the specific poisonous effect of the biurate. It is improbable that necrosis of tissue precedes the crystalline deposit, because the biurate alone is able to cause complete necrosis, and, on the other hand, crystals were found in tissues anatomically intact. The artificial biurate foci disappear in consequence of phagocytosis. The author finds no proof that the crystals are dissolved either physically or chemically, but does not deny such a possibility.

Observations Concerning Leukæmic Lesions of the Skin.—OERTEL (*The Journal of Experimental Medicine*, September-November, 1899, vol. iv. p. 369) has reported a case of leukæmia cutis, and draws attention to the rarity of the condition. The first case reported was that of Biesiadeckis, which was published in 1876. The cases of leukæmia of the skin which have been published up to the present may be divided into three classes:

The first class is represented by cases in which there are circumscribed, multiple, pin-head to hazelnut-sized, rapidly growing, pale or faintly red to brownish-colored tumors, irregularly distributed over the body, with little teadeacy to retrograde metamorphosis or ulceration.

The second class is characterized by a few solitary, brown, markedly elevated, lobulated, firm, slowly growing, and persistent nodules. According to Neuberger, the condition consists of a lymphoid-celled infiltration into the cutis, especially around the follicles, by which the deeper layers of the epidermis are compressed, although they are still separated from the infiltration in the lower part of the catis by a small, narrow, non-infiltrated zone of connective tissue.

The third class includes those cases in which the lesions are more diffuse. They show, on the one hand, a diffuse, moist, eczematous appearance, especially of the head, extremities, and chest, and on the other hand, tumors the size of a pea to a pigeon's egg, which ulcerate spontaneously, leaving a large, flat, red ulcer. An eczematous condition of the skin is present.

The most definite statements yet recorded concerning the structure of leukæmic cutaneous nodules are to be found in Nékám's recent discussion of the subject. Without going into the histological details of the three above groups of cases, it is sufficient to say that Nékám is fully convinced that a number of the cases reported as examples of leukæmie cutis, and particularly the diffuse lesions falling under the third group, cannot be regarded as such, owing to the fact that neither the clinical nor the anetomical characters of leukæmia or of the tumors were indisputably established. He accepts as undoubted examples only the cases of Biesiadecki, Hochsinger and Schiff, Neuberger, and his own, in all of which there were definite nodules the size of a pea to a hazelnut without a diffuse appearance.

After describing the histological features of the leukæmic nodules in the skin, Nékám states that they must be regarded as infiltrations, and we can, therefore, accept as such only those which fulfil the following conditions:

1. They must occur during the course of true leukæmia.
2. Their origin must be exclusively a dinpedesis of cells from the blood, local proliferation of cells being absent.
3. A part of the cells, especially the red corpuscles, are returned to the blood by way of the lymph-channels, another part, especially the leucocytes, are carried off through the epidermis, or otherwise discharged.
4. The chief bulk of the cells composing the nodules undergo no metamorphosis.

The case which Oertel reports was a man, aged about forty years, who had been ill for two years. The attending physician had at first treated him for malaria, owing to the markedly enlarged spleen. Some time before the patient's death, according to the physician's statement, "there appeared on the skin small nodules, irregularly distributed over the body." They appear to have been observed first on the chest and arms, then on other parts of the body. Their appearance at once led to a diagnosis of multiple sarcoma of the skin. It was after this that Oertel first saw the patient. A blood examination was ordered, and a slide sent him for examination showed an enormous increase in the white corpuscles, with numerous myelocytes and eosinophiles. There remained no doubt but that the patient

was suffering from leukæmia. The case was not heard of again until weeks later, when Oertel was requested to make an autopsy. Only a partial autopsy was permitted, but he was able to obtain the spleen, a small piece of the liver, and two of the cutaneous nodules from the left thigh.

The sections of the nodules removed were stained in hæmatoxylin and eosin, the Biondi-Heidenhain mixture, and in Unna's methylene-blue. The epidermis and upper part of the cutis showed no definite changes. The lower part of the cutis, on the other hand, was the seat of a dense and diffuse so-called small-celled infiltration. The largest part of the infiltration was made up of cells presenting the characters of lymphocytes. These were of two kinds: (1) Small cells with narrow, faintly staining cytoplasm and deeply staining nucleus, and (2) larger cells with feebly staining cytoplasm and a large, sometimes indented, somewhat irregularly staining nucleus. There were found also (3) polymorphonuclear leucocytes and (4) eosinophilic leucocytes. Apparently no myelocytes were found. There were but few red blood-corpuscles and only an occasional plasma cell was found. No mitoses were observed, and in this regard Oertel's observations agree with Nékám's. Oertel states that his study of the nodules in this case goes to support the view of those who regard secondary leukæmic nodules as essentially composed of cells derived from the blood rather than from the local proliferation of cells.

A Contribution to the Study of Alcaptonuria.—A. E. GARROD (*Medico-chirurgical Transactions*, 1899, vol. lxxxii. p. 367) reports five new cases of alcaptonuria and gives a tabulated list of all the cases hitherto reported, making a total of thirty-one cases in all.

The urinary condition known as alcaptonuria was first described in 1859 by Bodeker, who suggested the name. The following are the essential features of the urine in alcaptonuria:

1. Although of normal appearance when passed, the urine rapidly acquires a deep brown color, and ultimately becomes black on exposure to air.
2. The brown color is greatly intensified by alkalines, its development being accompanied by oxygen.
3. The urine reduces Febling's solution with the aid of heat, and actively reduces ammoniacal silver nitrate solution in the cold.
4. The bismuth test for sugar yields negative results (one recorded case alone offered an exception to this rule).
5. The urine has neither dextro-rotatory nor levo-rotatory power.
6. The fermentation test yields negative results.
7. Fabrics moistened with the urine become deeply stained on exposure to air.

From the thirty-one recorded cases alcaptonuria appears to be much commoner in males than females. There were twenty-three of the former and only eight of the latter. In the great majority of cases the anomaly dates from childhood. In seventeen of the cases it had been observed since infancy. Several members of a family may be affected. Kirk reported three cases in one family; all were brothers. Baumann and Wolkow have pointed out that lifelong alcaptonuria is apparently without any injurious effect upon the health of its subjects. The alcaptonuria may be intermittent.

The peculiar reactions in alcaptonuria have been attributed to various substances—pyrocatechin, uroleucinic acid, glycosuric acid, and homogentisinic acid. It is now generally conceded that homogentisinic acid is the cause of alcaptonuria in the vast majority if not in all cases. It was first isolated in 1891 from an alcapton urine by Wolkow and Baumann, and has the formula $C_8H_8O_4$.

Tyrosin is the parent substance from which the homogentisinic acid is formed. Wolkow and Baumann thought that alcaptonuria was due to a disturbance of the metabolism of tyrosin due to the presence of a special intestinal bacterium. Some opposition has been advanced against this view, however.

In four of his five cases Garrod isolated the lead salt of homogentisinic acid.

The Diagnosis of Typhoid Fever.—NAEGELI (*Correspondenz-Blatt für schweizer Aerzte*, 1899, No. 18) made use of an epidemic of typhoid fever in an almshouse to investigate the results of the serum diagnosis and blood examination. Some of his investigations are worthy of wider control. After considerable investigation the source of the epidemic was found in the dairyman of the institution, who, several weeks before the beginning of the epidemic, had an indisposition with diarrhœa, sweating toward evening, and disturbing dreams, but who did not consult a physician. Four months afterward he gave an intense Widal reaction, a dilution of 1 to 100 causing agglutination in fifteen minutes. In answer to a possible objection that the man could not have infected the inmates through the milk, because the milk would have been boiled, the author points out that in pouring milk from vessels for boiling small quantities are frequently left behind which are afterward mixed with the boiled milk and then consumed. In addition to this there are, of course, other possibilities. The author gives the results of his investigations in the leucocytes in typhoid fever, of which the following are worthy of consideration: He finds that the neutrophile cells decrease rapidly in the first stage of typhoid fever, soon reach the half of their usual number, and gradually further decrease up to the stage of defervescence. In the convalescence they begin to increase, at first slowly, and then rapidly. It is usually only after many weeks that the normal figures are regained. Before the onset of the fever there is probably a neutrophile leucocytosis. The author was not able to make blood counts in this stage, but found such an increase in the beginning of relapses. After this the relapse showed conditions similar to those described for the primary attack. Complications, such as parotitis, cystitis, otitis, suppurations and eruptions, often cause an increase of the neutrophiles before other clinical phenomena are manifest. The lymphocytes are much reduced in the first and second stages, increased at the end of the second or beginning of the third stage, soon pass the normal number, and reach the maximum long after the subsidence of the fever. The eosinophile cells decrease at once in the beginning of typhoid fever, and usually are completely absent in the first and second stages. Long before the defervescence, on the average a week before, the eosinophile cells reappear as a sign of good prognosis, and gradually increase, reaching the normal in the third week after defervescence. Sometimes, especially in children, they

long remain above normal. Relapses have the same effect as the primary attack, but complications, if not severe, usually do not influence the lymphocytes at all, and the eosinophiles very little. In children with typhoid fever the decrease of the total lencocytes is not so great as in adults, and does not last so loag. The differential count is therefore important. By means of the leucocyte count and the serum test the author was ahle to recognize eight cases that would otherwise have been overlooked, including three in which there were no symptoms nt all. From his own investigations he is inclined to consider the lencocyte count as at least equal in value to the serum test or in somo cases even permitting n diagnosis where the serum test is negativc.

A Contribution to the Subjects of Chronic Interstitial Nephritis and Arteritis in the Young, and Family Nephritis.—BRILL and LIBMAN (*The Journal of Experimental Medicine*, September and Novemher, 1899) report an interesting case of chronic interstitial nephritis in a young girl, aged fourteen years, and draw atteation to the fact that chronic nephritie, especially the interstitial type, is commoner in children than is generally supposed by the medical profession.

Of 251 cases of chronic nephritis observed hy Heubner in Leipsic, 214 occurred in adults and 37 in children. He subsequently saw 28 cases in children in Berlin, mostly after scarlet fever. Of these 65 cases there were 3 of parenchymatous nephritie, 4 of contracted kidney, and 5 of chronic hemorrhagic nephritis. Bartelo has obeerved chronic interstitial nephritis in one ease at the age of eighteen, in another at nineteen, and in two at tweaty.

Heubner states that there are only thirty cases of interstitial nephritis in childrea on record in which post-mortem examinations have heen made. He adds to his list four cases from his own experience; three are males, aged respectively fourteen, nine, and twenty-four, and one in a female aged elevea. According to Heubner, there are seven eases in the literature in which there is no history of a previous acute attack, so that they can he looked upon as instances of primarily contracted kidneys. The ages of five of these cases at death were five, six, ten, thirteen, and fourtcen years respectivcly. Heuhner had one case which belonged in this class, in a hoy, aged nine years, who presentcd typical symptoms of chronic interstitial nephritis. Baginsky and Weigert have reported cases in which the interstitial nephritis was congenital.

Brill and Libman report a fatal case of chronic interstitial nephritis, with the pathological findings in a girl, aged fourteen years. The kidneys in this case were among the smallest that have heen recorded in the chronic nephritis of early life. The right weighed 59 grammes and measured 9 x 4 x 3 cm. The lcft weighed 34½ grammes and measured 6½ x 3½ x 2½ cm. On microscopical examination hoth kidneys showed the characteristic changes of advanced chronic interstitial nephritis. The heart showed marked hypertrophy of the left ventricle. An interesting feature in this casc was the extensive calcareous degeneration of the hranches of the hepatic artery. This degeneration hegan npparently in the intima of the arteries, and later spread to involve the areas supplied hy them. The deposit was

found to be calcium phosphate. A similar degeneration was found in some of the arteries in the kidneys. Large hemorrhages were found in the spleen and mesentery, and these had been suspected *intra vitam*.

In the absence of the usual etiological factors in this case, Brill and Libman thought that it might possibly be a case of so-called "family nephritis." Several observers have reported instances in which a number of the members of a family have suffered from nephritis. An inquiry into the patient's family history revealed that there was a "tendency" to the development of chronic interstitial nephritis in the three eldest children.

Brill and Libman summarize the main facts in this case as follows:

1. The occurrence of a very advanced primary chronic interstitial nephritis at the age of fourteen years.
2. Its presence in other members of the same family.
3. The extensive and marked arterial changes present.
4. The hemorrhagic diathesis and especially the occurrence of a large hemorrhage in the mesentery.
5. The occurrence of calcific deposits in the liver.
6. The case draws our attention again to the lateacy of some of these cases of chronic nephritis in children. There is no doubt that some of them have been regarded as instances of diabetes insipidus. The necessity of a careful and continued observation of the heart and vessels in such cases is apparent. Others are treated for a long time for anæmia without its cause being discovered. Still others do not present themselves for treatment until the fatal termination is close at hand, the patients having had no marked symptoms. The fact that chronic nephritis may run so latent a course and may occur at any age should lead us to pay as much attention to the examination of the urine of children as of adults.

SURGERY.

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A New Method of Treating General Peritonitis with Drainage in Cases of Diffuse Peritonitis.—BODE (*Cent. für Chir*, January 13, 1900) reports a new and thorough method of treating cases of diffuse peritonitis. He employs large quantities of normal sterile salt solution. The intestines are delivered *en masse*, and while they are covered with sterile towels soaked in hot sterile salt solution, the abdominal cavity is thoroughly scrubbed and

flushed. The intestines are then all carefully washed and any wounds sutured. When they are replaced, a drainage-tube having perforations in the middle is introduced, and the ends carried over the colon on either side and out through openings in both lumbar regions. Through these openings drainage-tubes are carried into the pelvis or any other portion of the abdomen that has been the seat of a focus of suppuration. Drainage is also inserted through the laparotomy wound as in ordinary methods. A peculiarity of the after-treatment is that the cavity is flushed out through these drainage-tubes in the daily dressings by means of large amounts of normal salt solution. When the symptoms of peritonitis subside, usually after three or four days, the tubes are withdrawn gradually and the wounds allowed to heal. The success of the treatment has been very marked, patients with very grave symptoms having recovered rapidly.

Local Anæsthesia in the Radical Cure of Hernia.—CUSHING (*Annals of Surgery*, January, 1900) reports that 233 herniotomies have been performed in Professor Halsted's clinic in the past two years, and that of these forty-nine were performed under regional anæsthesia.

Almost all cases of hernia, with the possible exception of those in young children, could undoubtedly be subjected to the radical operation under similar local methods, but when a general anæsthetic can be safely administered, for various reasons it is much to be preferred by both patient and operator.

In the cases reported complete narcosis was contraindicated by advanced age, chronic bronchitis, and emphysema, tuberculosis, laryngeal or pulmonary, cardiovascular changes of marked degree, chronic nephritis, and above all the shock and vomiting in strangulation. Besides these there have been about 200 cocaine operations of major character, where the use of a general anæsthetic was avoided for a similar reason. They included thirty laparotomies, exploratory sections; two gastrostomies; closure of a traumatic rupture of the jejunum; three cholecystotomies for empyema of the gall-bladder; three appendectomies, and one operation for the closure of a typhoid perforation. In handling the gut it was found that an anæsthetic was required, and no pain was produced unless traction was made excessive.

Local anæsthesia is particularly suitable for the ligation of varicose veins, suprapubic cystotomies, and all scrotal operations if done through the high incision.

The author gives a brief résumé of the case operated upon, and details the condition present and the result produced by the operation in some of the more important cases. In cases of strangulation, where the vomiting and shock from the absorbed toxins is great, the use of a general anæsthetic is contraindicated. He says: "It is in border-line cases of this sort that local anæsthesia gives the best chance of recovery. In just such cases do we often meet with death under or rapidly following the general anæsthetic."

He has carefully studied out the source and distribution of the cutaneous nerve supply of the operative area, both in dissections on the cadaver and by observations of the region of the cutaneous anæsthesia which results from such operations. Such knowledge is essential to the proper employment of the local anæsthetic in these or any operation.