

MEDICINE.

UNDER THE CHARGE OF

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PRESENCE OF THE TYPHOID BACILLUS OUTSIDE OF TYPHOID PATIENTS.

REMHEIFER and SCHNEIDER, working with Elsner's medium, have recently made a number of experiments with water, soil, and fecal material from non-typhoid subjects in order to determine whether the typhoid bacillus could be isolated from them.

Thirty-six specimens of water from different parts of the country were examined, and eight of them contained bacilli which, morphologically and culturally, resembled the typhoid bacillus. They all presented besides these characteristics the property which has been spoken of since the work of Pfeiffer as "glabrification"—i. e., an animal which, under usual circumstances, would succumb to their inoculation, could be protected against them by a typhoid antitoxin. In two cases the water came from places in which typhoid was then present, and in five others typhoid had been present in the place from which the water came only a few months previously.

Ten earth-cultures showed the same bacillus six times.

Finally a bacillus identical with Eberth's bacillus was found in the stools of three individuals not suffering from typhoid (leukemia, malaria, Bright's) and who had never had the disease. In five other patients a negative result was obtained. Of the eighteen organisms obtained from these different sources twelve were pathogenic for animals, and the animals could be protected against a fatal issue by the use of an antityphoid serum.

The authors think that these researches throw some light on the general etiology of typhoid and point to the possibility of autoinfection. They point out at the same time that there are numerous organisms which closely resemble the typhoid in all the locations mentioned, but which do not possess the property of glabrification.—*Comptes Rendus de la Société de Biologie*, July 24, 1896.

THE URINE IN HYPERTROPHIC PULMONARY OSTEO-ARTHRITIS.

GUÉRIN and ÉTIENNE have recently examined the urine from a well-marked case of the above disease with particular reference to the quantity of lime, urea, magnesia, and phosphoric acid excreted.

The authors found that over a period of three or four months, in which they examined the urine almost daily, marked deviations from the normal were present.

The quantity of lime excreted reached to double the normal on many days over the period of four months, but after that time diminished and became less than normal. The quantity of magnesia excreted did not vary notably. The quantity of phosphoric acid has always been extremely low, and urea was present in minimum normal quantities. The authors think these examinations prove that during the first period of the disease the bony system becomes partly decalcified, and this partly explains the deformity in this disease.

The articular enlargements they explain as due to a secondary ossification following the primary process, and in which only a minimum amount of lime is excreted, as shown by their examinations.

The authors point out that this disease not only has characteristics of its own, but also has others common to itself and acromegaly (the spinal curvature), and itself and arthritis deformans (joint-deformities), and theorize as to whether it is a separate disease or a transition-stage between the rheumatic arthropathies and Marie's disease.—*Archives de Médecine Expérimentale*, July, 1896.

BASEDOW'S DISEASE.

C. GERHARDT makes some suggestive remarks on the nature of Basedow's disease in the course of a short article on the condition of the arteries in that disease (*Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. i. Heft 2). He calls attention anew to the pulsation of the spleen and liver, which he has observed in a number of cases, a phenomenon of importance in distinguishing between mitral insufficiency and Basedow's disease.

Gerhardt looks on the thyroid theory of the cause of the disease as inadequate. He thinks strong emotional disturbances are the most common causes. These affect the brain in such a way that vascular disturbances result. Sooner or later substances are set free in the blood, perhaps largely from the enlarged and overnourished thyroid, and these cause a principal part of the other symptoms, as, for example, the nervous ones. So it is easy to understand how removal of the gland frequently causes improvement, evidently without removing the disease, nor is it likely that organic changes can be found in the brain in a disease of this kind.

TRICHOCEPHALUS AS A BLOOD-SUCKING PARASITE.

ASKANAZY has demonstrated that the common whip-worm does not live on the contents of the alimentary canal, as generally supposed. By a careful examination of fresh specimens he was able to convince himself that the narrow end of the worm buries itself in the mucous membrane. Serial sections show that the worm really bores its way through the mucosa, often in a tortuous manner. In the intestine of the worm Askanazy proved that the brown pigment, formerly thought to be derived from the feces of the host, gave the iron-reaction and therefore was derived from hæmoglobin. The objection that the œsophagus of the worm is too narrow for the passage of red corpuscles Askanazy showed to be erroneous. In some sections the lumen of the œsophagus had a diameter of ten millimetres. That organ is, moreover, elastic, and this, with the well-known ability of blood-corpuscles

to slip through relatively narrow openings, makes it clear that there is no mechanical obstacle to the swallowing of blood by the parasite. The author found that the worms were imbedded in the mucous membrane in greater proportion in cases examined soon after death. These observations make clear the cause of anæmia in certain reported cases of trichocephalus-infection. That anæmia is not more frequent is probably due to the fact that usually only a few parasites are present.—*Deutsches Archiv für klin. Med.*, Bd. lvii. Heft 1 und 2.

A PULMONARY VALVE WITH FOUR SEGMENTS.

VIRCHOW recently demonstrated before the Berlin medicinische Gesellschaft (*Berliner klin. Wochenschrift*, 1896, No. 30) a hypertrophied heart of unusual origin. It was obtained from a man, fifty-six years old, who had evidences of chronic endarteritis, though not to a sufficient extent to account for the hypertrophy, and at first sight no explanation was visible. Both ventricles were hypertrophied; in the wall of the right ventricle some of the trabeculæ had the thickness of a finger. The pulmonary conus was dilated, as was the pulmonary artery itself. The valves were somewhat thick, and one of them showed a curvature which must have caused insufficiency. A fourth segment was found, somewhat concealed by the others. It had its own sinus of Valsalva. This congenital anomaly with its accompanying insufficiency explained what was otherwise an "idiopathic" hypertrophy.

BACTERIA IN THE URINE IN NON-BACTERIAL FEBRILE DISEASE.

CHVOSTEK and EGGER (*Wiener klin. Wochenschrift*, 1896, No. 30) report the occurrence of bacteria in the urine in the paroxysms of malaria and in fever produced by injections of tuberculin. As the experiments were conducted in such a way as to exclude the usual causes of error in such observations, and were positive in a greater proportion than is the case in normal subjects, the authors believe that fever serves in some way to favor the excretion of micro-organisms, though no bacterial disease in the usual sense exists. They suggest that this may be simply the exaggeration of a process which must occur at times in healthy persons. Bacteria at times gain entrance to the blood, perhaps most frequently by way of the lymphatics, and are finally excreted with the urine. These germs are probably more or less lowered in vitality, so that they cannot often be cultivated successfully, but in fevers, such as the authors worked with, the excretion is more rapid. These and other observations show that the occurrence of non-specific bacteria, especially the *staphylococcus albus*, in the urine cannot be looked upon as of great importance, and that other facts must be advanced in order to prove their relation to disease present.

THE PRESERVATION OF URINARY SEDIMENTS.

GUMPRECHT (*Centralblatt für inn. Med.*, 1896, No. 30) gives a new method for the preservation of urinary sediments, which seems *à priori* to have a number of advantages over other methods. The urine is centrifugated, so as to form a compact sediment. The tubes should have bulbous extremities

in order to make safer the subsequent procedures. If blood is present, the sediment, after careful decantation, is shaken up with saturated sublimate solution and centrifugated again, the sublimate decanted, and the sediment washed in the centrifuge six times with water or physiological salt-solution. After this, which may be dispensed with if there is no blood and but little albumin present, formol, in a solution of 2 to 10 per cent., is poured over the sediment, which then remains as a nnebecula.

Gumprecht has preserved sediments in this way for a year with excellent results. Casts, cells of various kinds and in various stages of degeneration, red blood-corpuscles, and bacteria are well preserved and may be examined unstained or stained. Degenerated red blood-corpuscles, according to the author, are especially well preserved.

ANTHRACOSIS OF THE URINE.

BETZ (*Memorabilien*, xxxix. Heft 6) reports the case of a stovemaker who for a long time cleaned stoves in which anthracite coal had been burned and who acquired bronchitis. While under treatment the urine suddenly showed a black sediment which disappeared after four days. The sediment could easily be mixed with the urine, but settled rapidly on standing as a fine powder, leaving the supernatant urine clear. Chemical and microscopic examination showed the sediment to be composed of anthracite coal-dust. The sputum was free from this.

THE INFLUENCE OF ANTISYPHILITIC TREATMENT IN PREVENTING CERTAIN DISEASES OF THE NERVOUS SYSTEM CONSIDERED OF SYPHILITIC ORIGIN.

COLLINS publishes an important article on this subject from the clinic of Professor C. L. Dana (*The Post-Graduate*, vol. xi. No. 7). The diseases investigated were tabes dorsalis, cerebral thrombosis (exudative syphilis), syphilitic spinal-cord diseases, and general paresis, from hospital and private practice. Seventy-five per cent. of the tabes cases gave a clear history of syphilis, and in some others there was a suspicious history. Twenty-five cases of hemiplegia were selected because of the history of syphilis and the absence of other etiological factors. Out of fourteen cases of general paresis syphilis was denied in four. The other clinical details should be read in the original. The author's summary is as follows: 1. Exudative and degenerative diseases of the nervous system, due to syphilis, are most liable to show themselves at the end of the third and beginning of the fourth decade of life. 2. Thorough and prolonged administration of antisiphilitic remedies during the activity of the virus does not seem to prolong materially this time-limit. 3. Active and prolonged antisiphilitic treatment does not seem to prevent the development of such diseases as locomotor ataxia and general paresis; and cases in which syphilis is confessed and in which treatment has been most desultory and incomplete are not more liable to the earlier development or of the severe manifestations of either of these two diseases than those in which the treatment has been all it should be. 4. The administration of antisiphilitic measures in the most approved way does not fulfil the requirements of cure, and syphilis is often an incurable disease. [The number of

cases seems too small to warrant some of the conclusions, which are nevertheless valuable as representing the personal opinion of the author.]

THE SIMULATION OF OPIUM-POISONING BY ACUTE LESIONS OF THE PONS.

DANA (*The Post-Graduate*, vol. xi. No. 7) reports the following: A man, forty-nine years old, had been subject to worry and business anxieties for a long time. A year before the final disease he had a number of attacks of palpitation with anginal symptoms. Falling from the steps of a train he was struck on the back of the head, was dazed, and the next day had, apparently, an epileptic attack without paralysis. A month later he had a fainting-spell, became profoundly unconscious, with pinpoint-pupils, respiration one or two a minute, and absent radial pulse. The heart was beating irregularly at about seventy; the extremities were cold. With stimulation and artificial heat the respiration increased to four, but soon ceased entirely, very suddenly. After artificial respiration for a quarter of an hour breathing began again and at the end of five hours became normal. The pupils were normal and consciousness partially restored. Active delirium then began, lasting three days. After that ceased and the patient became rational persistent hiccough came on. There were evidences of arterial degeneration and weak heart. Had the patient died early in the attack the medical evidence of opium-poisoning would have been very strong, yet this could be positively excluded. Evidently there was none softening or anæmia of the pons, which simulated opium-poisoning just as hemorrhage of the pons does. (The high temperature of hemorrhage was absent in this case.) Cases in which the mistake has been made are reported by Wilks, Fagge, and others. In some instances of hemorrhage the stomach has been washed out and antidotes administered.

KLUMPKE'S PARALYSIS.

HEUBNER reports three cases of this interesting disease, all in children. In one case there was an osteosarcoma in the region of the seventh cervical and first dorsal vertebrae, with internal metastases, causing atrophy of the corresponding nerves at their exit from the intervertebral foramen. In this case there were the following symptoms: Paralysis and atrophy of the interosseous muscles of the ulnar side of the right hand, with claw-fingers; the electric excitability of the muscles reduced; no reaction of degeneration; the right eyelid and pupil narrowed; the pupil reacted well to light; the lid could be raised voluntarily. There were no vasomotor symptoms. Shortly before death paresis of the lower limbs and retention of urine, with incontinence, came on. The second case was one of caries of the seventh cervical and first dorsal vertebrae. The symptoms were much like those of the first case, but the muscles supplied by the radial nerve were involved more than those innervated by the ulnar, and gave the reaction of degeneration. In the third case there was no autopsy, but the symptoms were like those in the other two. In all three cases there was the paralysis of the arm, with the peculiar ocular symptoms. The latter are explained by the implication in the vertebral disease of the communicating branch of the first dorsal nerve,

which, as Miss Klumpke showed experimentally, carries fibres from the cilio-spinal centre to the smooth muscular fibres of the orbit and pupil.—*Charité Annalen*, Bd. xx. p. 230.

CEREBRAL SPASTIC PARALYSIS IN CHILDHOOD.

H. GANGHOFNER (*Jahrbuch für Kinderheilkunde*, 1895, Bd. xl. Heft 2 und 3), calls attention to the possibility of hydrocephalus in the spastic paralysis of children, as Strümpell first pointed out. Three cases under Ganghofner's observation died of intercurrent disease. In the first case there was hydrocephalus with increased thickness of the ependyma, but otherwise no notable change. In the second case there was marked hydrocephalus with reduction of the cortex, and, microscopically, atrophy and sclerosis of the pyramidal tracts in the medulla and the cervical dorsal cord. In the third case there were imperfect development of the olfactory tracts, slight internal hydrocephalus with moderate thickening of the ependyma, dilatation of the central canal from the lower cervical region to the cauda, with thickening of the substantia gelatinosa centralis. Ganghofner explains the spastic and parietic phenomena in such cases by mild changes in the cortex or functional lack of development of certain parts, so that the cerebral inhibition of the spinal reflexes is lost.

THE ETIOLOGY OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Recent observations in Germany direct our attention again to this subject, and, thanks to Quincke's lumbar puncture, promise a valuable means of diagnosis.

WEICHELBAUM described, nine years ago, an organism which he called *diplococcus meningitidis intracellularis*. Little attention was paid to this, the *diplococcus pneumoniae* seeming to most investigators to be the cause of epidemic meningitis, notwithstanding many objections to that view. Recently JAEGER (*Zeitschrift für Hygiene*, Bd. xix.) in Stuttgart has again found the former organism in epidemic meningitis. In the spring of 1895 HEUBNER (*Deutsche med. Wochenschrift*, 1896, No. 27) found the same microbe in the fluid from lumbar puncture in a case of epidemic cerebro-spinal meningitis. Later this was confirmed by Henbner and Finkelstein in eight cases, the diagnosis of cerebro-spinal meningitis being confirmed by autopsy in all the cases except three—one of which recovered, and in the others autopsies could not be made. Comparison with Jaeger's preparations proved the identity of the organisms. Both Weichselbaum and Jaeger failed in their efforts to inoculate animals, but Heubner was more successful, and in two goats obtained positive results. The experiments showed also that the meningo-coccus is less virulent than the pneumococcus, thus agreeing with clinical and epidemiological observations. Pneumococcus meningitis is usually rapidly fatal, but in the epidemic disease only from a third to a half of the cases die, and of these many have a protracted course.

Important additions to the knowledge of this microbe have been made by Fürbringer (*Deutsche med. Wochenschrift*, 1896, No. 27). A young man was admitted to his wards with symptoms of meningitis and recent gonorrhoea. Lumbar puncture gave a purulent fluid, some of the cells in which contained

microbes resembling gonococci. The patient died, and the autopsy revealed cerebro-spinal meningitis with an old tuberculous lesion of the lung. Examination showed that the diplococci in the meningeal fluid were in reality meningococci, the gonorrhoea being simply a coincidence.

The differential diagnosis of the two cocci was made the subject of special investigation by F. KIEFER, of Berlin (*Berliner klin. Wochenschrift*, 1896, No. 28). It is enough here to state that, although the organisms are much alike, the meningococci vary more in size among themselves than the gonococci. The arrangement in the cells is much alike in both cases. Both decolorize by Gram's method. The meningococci, however, grow rapidly in glycerin-agar—a fact of great value in the diagnosis of cerebro-spinal meningitis by the aid of spinal puncture.

Kiefer was unable to inoculate guinea-pigs and rabbits, but while carrying on his observations he had rhinitis with marked depression, headache, nervousness, and a drawing-pain in the neck. The pus from the nose showed cocci similar to those in the cultures, and these soon overcame the other bacteria of the nose, appearing almost in pure culture. Kiefer concludes that this observation shows the great infectiousness of the meningococcus; the fact that the nose is the usual entry of the microbe; that infection does not always follow a course identical in virulence with the original material; and that the meningococcus has perhaps been mistaken for the gonococcus in some cases of purulent disease of the nose, ear, and meninges—an error difficult to avoid in the absence of cultures.

WHEAT-STARCH IN THE BRONCHI.

C. GERHARDT reports the case of a baker, working much in flour-dust, who was taken with pain in the left side, cough, dyspnoea, and pain in the thighs. There was dulness on percussion over the right apex, most marked posteriorly, increased vocal fremitus, harsh respiration, and numerous râles. The sputum had a remarkably milky appearance, like starch-paste. It was therefore treated with dilute iodine solution, in which it became blue. The microscope showed formless and cylindrical masses in the sputum, made up of round-cells and starch-granules. Starch could not be found in the nose, mouth, or larynx. Expectoration of starch persisted for two and a half weeks after the patient gave up his work. Gerhardt, who found expectoration of starch in three other bakers, suggests that the starch retained in the bronchi may have some relation to the asthma of millers and bakers.—*Centralblatt für innere Med.*, 1896, No. 20.

THE ETIOLOGY OF GENERAL PARESIS.

From the analysis of two hundred cases in Krafft-Ebing's clinic (*Wiener klin. Rundschau*, 1895, No. 45) HIRSCHL comes to the conclusion that syphilis is the chief cause of general paresis, even going so far as to call the disease *encephalitis syphilitica*. The average age of the patients were forty-five and one-half years. Four were under twenty, two over sixty. The proportion of men to women was three to one. Heredity seemed to be concerned in 11 per cent. of cases. Psychic causes could not be discovered. (The majority of the cases were from the lower classes.) In thirteen cases

there was a history of traumatism, in nineteen alcoholic excesses. Out of 175 cases with complete histories, 56 per cent. gave a positive history of syphilis, and 25 per cent. a probable history. In seventy-eight cases the period from infection to the symptoms of paresis varied from two to twenty-nine years.

ALIMENTARY GLYCOSURIA IN FEBRILE DISEASE.

POLL (*Fortschritte der Med.*, 1896, No. 13) calls attention to a fact which seems hitherto to have escaped notice, viz., that acute febrile conditions favor the occurrence of alimentary glycosuria. Cronpous pneumonia seems especially prone to this, though typhoid fever, angina (tonsillar abscess), articular rheumatism, and scarlatina also furnished examples. In connection with this Poll recalls the fact that in animal experiments the liver during fever contains less glycogen than normal, even if the animals have been fed with carbohydrates, so that an insufficiency of the glycogen-depot has been spoken of. It may be supposed that part of the glucose which finds no place in the liver remains in the blood and is excreted by the kidneys. Whether this explanation holds for the clinical facts must be determined by further experiments, some of which are now making in von Noorden's laboratory.

SURGERY.

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THE PRESENT POSITION OF THE RADICAL OPERATIONS FOR CHRONIC SUPPURATIVE OTITIS.

JONES (*British Medical Journal*, May 30, 1896) makes the following classification of cases of otitis, and gives the appropriate treatment for each:

A. (1) Simple chronic purulent inflammation limited to the main cavity of the tympanum with a perforation in the membrana tensa. (2) The disease limited as in (1), but accompanied by formation of polypi unconnected with bone-disease. (3) In which removal of polypi or granulations from easily accessible parts of the tympanum or meatus reveals small superficial patches of roughened bone.

Cases of group A, except when due to tubercle, are amenable to treatment by the older methods, including curetting, properly carried out.