Selected Papers.

SOME ANOMALIES AND COMPLICATIONS OF SCARLET FEVER.

Notes of a Clinical Lecture by Prof. OPPOLZER, Professor of Medicine in the University of Vienna.

In no disease do we meet with symptoms more anomalous than in scarlet fever. The intense fever which generally ushers in the eruption may be very slight or altogether absent, or sometimes gastric symptoms, as foul tongue, nausea, vomiting, may be the only forerunners of the disease, or a severe protracted angina may precede the eruption, which may after all be only partial, of pale red color, of short duration, and followed by only slight scaling. Scarlet fever *without eruption* is very rare, though the skin symptoms may be so slight as to be overlooked, and the true nature of the disease only suspected from after symptoms.

A more serious form of scarlet fever is that in which the fever sets in with severe headache and delirium, and is accompanied with great prostration, diarrhoea, and bloody stools, meteorismus, dry tongue, &c. The eruption is imperfectly developed, lasts a short time, and then recedes, and the whole form of the disease corresponds more with typhoid than scarlet fever. In more malignant cases a dusky discoloration takes place in various parts of the body, with petechiæ and ecchymoses, while hæmorrhages from the nose, mouth, bladder and rectum, are not uncommon. Such cases may be rapidly fatal. A low type of inflammation of the mucous membrane of the throat occurs in many epidemics. In such case, either before or during the eruption of the exanthem, the mucous membrane of the pharynx swells, the tonsils and uvula become enormously enlarged, the throat is narrowed, swallowing becomes impossible, and fluids regurgitate through the nose—morbid changes which may lead to extensive gangrene and death.

In many cases the inflammation terminates in profuse suppuration. The mucous membranes become covered with a dirty purulent exudation; extensive ulceration follows. The ulcers become covered with pus and the detritus of the tissue around, which give a most offensive odor to the breath. The inflammation extends to the glands of the neck and the lymphatics beneath the lower jaw, which become enormously swollen. If the character of the

epidemic be malignant, then swellings may rapidly suppurate, open, and involve a large destruction of surrounding tissue. In many cases, especially in children, these symptoms are accompanied by convulsions, coma, a very small, weak, thready pulse; and death in a few days. In more favorable cases the swelling subsides, and the ulcers heal.

In severe epidemics the inflammation of the mucous membranes may assume a diphtheritic type and extend over the nares. The fever is then very intense, and of a *typhoid* character. The mucous membrane of the throat and mouth is covered with a diphtheritic membrane, with profuse serous very offensive discharge from the nose. The false membranous exudation quickly breaks down, and intense head symptoms—headache, coma, convulsions—set in. Inflammation of the salivary glands, and the lymphatics in the neck, with inflammation of the cellular tissue of the neck, is observed more frequently in scarlet fever than in any other febrile disease; generally the eruption is full, and the fever runs high. Not unfrequently extensive and diffuse inflammation of the cellular tissue and glands in different parts of the surface of the body occurs; and this may assume a most dangerous form if the inflammation involves the more internal parts; for instance, the structures behind the pharynx. Oppolzer has seen many cases of retro-pharyngeal abscess obstructing the gullet, and preventing the patient from swallowing. In one case there was extensive sloughing of the cellular tissue of the right inguinal region in a boy twelve years of age, leading to erosion of the bloodvessel, and hæmorrhage.

But affection of the kidneys is the most frequent complication of scarlet fever. It may occur either early or late in the course of the complaint; and generally leads to anasarca or dropsy, usually about the third week of the disease. Nephritis may come on very slowly and gradually, and is sometimes only recognizable by careful examination of the urine.

In other cases nephritis ensues with high fever, great debility, vomiting, and sometimes diarrhoea. The lumbar region becomes tender; the urine scanty, cloudy, brown-red, and containing red blood-cells; its specific gravity generally high, and containing albumen in greater or less quantity. Characteristic of the complaint is the appearance of casts of the kidney tubes. But there are cases in which the first symptoms of nephritis occur *in the beginning of*

the complaint, and only a few days after the eruption, though the urine is neither diminished, nor yet contains blood or albumen. Affection of the kidneys may result in ascites, anasarca, or serous effusion into the different cavities of the body, or these symptoms may be absent, and the disease show itself by the presence of convulsions, coma, and paralysis, as the consequence of uræmia.

A great difference in the character of the urine is observed *during the development*, and during the course of scarlet fever.

During its development albuminuria very seldom occurs. Yet even then a very careful examination may detect degenerated epithelial cells in considerable quantity with some blood and casts. These symptoms point to catarrhal affection of the urinary tubes, and in a great number of cases are absent. In the clinique, cases have often been observed, in which at the commencement of the disease the urine has been quite clear, and yet, on standing a short time, a soft, opalescent, mucous cloud has formed, which, under the microscope, was found to consist, for the most part, of epithelial cells, and, sooner or later, substances like casts. But similar appearances are found in the urine in other acute diseases—viz., in pneumonia, meningitis, typhus, acute peri- and endo-carditis, measles, &c.; and, with regard to them, we can only say that, in many acute febrile diseases, a metamorphosis of the tissues of the internal organs takes place, especially of the epithelial cells, which become detached and loosened. This is especially the case with the kidneys. The question is still undecided, whether these deposits in the urine are merely the result of the fever, or are a specific product of the scarlet fever process. But it may be said, in cases where the scarlet fever occurs *without any feverish symptoms*, that these changes are not found in the urine, and are generally absent in slight cases of the malady.

In the case of the boy, aged 10, whose case we have lately observed, a copious urinary deposit was seen during the *first two days of the eruption*, but a microscopical examination gave no result. On the *third day of the eruption*, however, there was observed a mucous clouding of the urine, which, under the microscope, was seen to contain a few cast-like bodies, extremely transparent, and provided with fine grey granules, with isolated cloudy epithelium of the mucous membrane of the tubes. It was curious that in this case distinct traces of albumen were first found

on the fifth day of the disease in the form of an opalescent layer, which continued without change, and without increasing, for eleven days. Since then the urine has been quite normal. In this case the fever was severe for two days, and the urinary deposits may have been the consequence of this, and not the result of a specific change.

In cases of scarlet fever in which sooner or later some complication of the kidneys takes place, sensitiveness of the lumbar region is observed: either real pain or tenderness on pressure.

Dropsy.—There is much variation in this symptom. It begins usually in the face and eyelids, and spreads over the whole surface of the body; in the acute cases it reaches a considerable degree, and is accompanied by increased temperature of the skin, but in the more chronic forms of nephritis the dropsy comes on gradually, and is less extensive, the urine of a whitish yellow color, thick, opalescent, and its specific gravity is diminished.

In many cases *serous effusion* takes place into the different cavities of the body; *more rarely* into the interstitial tissue of the lungs, when it may be mistaken for pneumonia. In one case, Oppolzer witnessed an enormous œdema of the scrotum, and in another, serous effusion into the tunica vaginalis testis.

Edema does not occur in all cases of nephritis scarlatinosa with albuminuria; the dropsical symptoms are often absent in very acute cases, but other serious symptoms supervene instead—viz., collapse, nausea, vomiting, coma, convulsions;—symptoms which depend upon uræmia.

In one case only has Oppolzer seen a very rare complication of scarlet fever—namely, *transitory paralysis*—which doubtless depended upon serous effusion into the meninges of the spinal cord.

Serous effusion into the lungs is indicated by severe fits of coughing, dyspnoea, and cyanotic face. The œdema involves a whole lobe, so that the percussion note is dull, and numerous consonant râles are heard. The patient in these cases may die asphyxiated, delirious, or comatose; or the exudation may be absorbed, and recovery take place.

Nephritis is observed frequently in some epidemics, *seldom* in others. Sometimes it supervenes with very acute symptoms at quite an early stage.

The *eruption* varies very much. Sometimes the inflammation of the skin is between the cutis and epidermis, and sometimes during the eruption exudation takes

place into the cellular tissue of the cutis, causing more or less swelling. In some parts the exudation may collect in considerable quantities, and cause the epidermis to be raised into bladders.

The blood in scarlet fever has not been found to differ from the blood in other acute diseases.

The pathological changes of the internal organs are very various after scarlet fever. Hyperæmia of the brain and its membranes, and sometimes granulations on the meninges, are found in cases where the head symptoms have been severe. The mucous membrane of the throat, uvula, and tonsils, is usually found ulcerated, sometimes covered with false membranes. The parotid and submaxillary glands with surrounding cellular tissue, are often found swollen, infiltrated, and inflamed; and there is hyperæmia and enlargement of the parenchymatous organs.

If the scarlet fever has been complicated with Bright's disease, œdema of the whole body and serous effusions into the serous cavities are found. The kidneys are hyperæmic and swollen; their cortical substance has a granular look; and in the urinary tubes are found casts and blood, with fatty degeneration of the epithelial cells.—*Medical Times and Gazette.*

Medical and Surgical Journal.

BOSTON: THURSDAY, DECEMBER 8, 1870.

ARSENIC IN THE TREATMENT OF DIABETES.

A NEW remedy for the treatment of diabetes has been introduced in France. In the *Gazette Hebdomadaire* for July 22d, its claims are thus commented on:

"We can now apply to arsenic that which has been said of fire as a therapeutic agent—'It cures what nothing else cures.' It grapples hand to hand with diabetes, and pretends to bring about recovery more surely and more quickly than any other means. Although the merit of its introduction belongs to MM. Devergie and Foville, its first application was the result of chance. A woman, with diabetes, was taking arsenic for the relief of a pruritus of the vulva; and it was observed that both diseases disappeared together. Farther experiments were made on diabetic patients

who had no skin diseases, and the same favorable result followed. These results are incontestable, and are worthy the attention of the profession. One observer, in affirming that he has cured by arsenious acid, and properly regulated diet, certain cases of diabetes which were still well nourished, has perhaps indicated the exact limits of the good effects of arsenic. Its utility within these bounds would be easily appreciated. Diabetes does not quickly reach the consumptive stage, and when it has reached that, there is nothing more to be done. Is it not, however, a great gain that an agent is found to arrest, in its early period, this fatal progress?

"How does arsenic act in these cases? The vaso-motor system could hardly fail to answer this query, the restoration of its vitality and a consequent toning of the circulation of the skin being adduced as the mechanism of its action. The observers quoted hold, however, to the verification of the therapeutic facts rather than to their theoretical interpretation. They make use of Fowler's solution, prescribing it in a dose of one drop, morning and night, the first day, and increasing the dose daily by one drop until it is six or seven. This maximum is continued, with an interruption from time to time, and after these short intervals of rest the treatment is resumed with half the last dose. One thing is omitted, however, in their observations—the duration of the treatment. Is the limit indicated by signs of arsenical saturation of the system, or by the disappearance of the sugar from the urine? Is there a chance, by continuing the treatment, of preventing the reappearance of the diabetes? It would have been well to have settled these points beyond a doubt or an uncertainty. Nevertheless, we hail this new remedy with pleasure. Perhaps it might be well, once the therapeutic fact is established, to unite the use of arsenic with animal diet and the alkalies, the two methods which, as palliatives, at least, have given thus far the most favorable results."

RESIGNATION OF CONSULTING PHYSICIANS.

We are not surprised at the spirited action of three members of the Board of Consulting Physicians of the city of Boston in