# AN EPITOME
OF
# CURRENT MEDICAL LITERATURE.

## MEDICINE.

### (15) The Occurrence of Right-sided Diaphragmatic Pleurisy in Heart Disease.

LOUIS RENON (*Arch. Gén. de Méd.* June 16th, 1903) draws attention to three cases of right-sided diaphragmatic pleurisy occurring as a sequel to pulmonary infarction in cases of valvular disease or arterial degeneration. Huchard first recognized this variety of pleural effusion. A typical case presents, during a passive congestion of the pulmonary bases, the onset of sudden and violent pain at one spot in the chest on the right side. On examination, the signs of a pulmonary infarction are complete: dullness, fine subcrepitant *râles*, *souffle*. Later, the development of haemoptoic crepitations confirm the diagnosis. The infarct may (1) be absorbed, (2) give rise to an effusion of a sero-fibrinous, haemorrhagic, or purulent nature. The fate of the infarct is determined (1) by its position under the pleura or in the lung substance, (2) by the septicity or asepticity of the embolic area. The effusion (1) may occupy the general pleural cavity, (2) may become encysted and situated in the mediastinum, (3) may be limited between the base of the right lung above and the diaphragm below. The signs of this diaphragmatic effusion are latent; the pain and dyspnoea are referred to the infarction, and the impaired resonance is attributed to the basal congestion. Vocal vibrations and subcrepitant *râles* are felt and heard posteriorly. If a pleural effusion is suspected, an exploratory puncture in the lower intercostal spaces in the axillary line fails to withdraw any fluid. On the contrary, the liver appears enormous, the hepatic dullness extending almost from the clavicle downwards into the abdomen. These signs were present in Renon's first case, which he diagnosed as a cardiopathic liver and which he treated with rest, milk, purgation, and cardiac tonics. The patient died suddenly, and at the necropsy a litre and a-half of fluid was found between the base of the right lung and the upper surface of the right half of the diaphragm. The liver proved to his surprise to be normal in size. He points out his triple error in diagnosis, prognosis, and treatment. This mistake enabled him to recognize his two latter cases. A few days after a right pulmonary infarct, there supervened a considerable dullness in the axilla and in front, with absence of vocal vibrations and vesicular murmur, and the liver was depressed. An exploratory puncture in the fourth intercostal interspace in the mammary line withdrew sero-fibrinous fluid. A puncture at the seat of election behind failed to reach the fluid on account of the thickness of the lung tissue pressed against the posterior chest wall. Only a very long needle would have succeeded. The essential points of diagnosis insisted on by Renon are these; dullness commencing on the right side in the axilla and in front, with rapid depression of the liver after clear indications of a pulmonary infarct. In cases of doubt he advises without hesitation an exploratory puncture in the centre of the dullness. Phonendoscopy and radioscopy will render considerable help in this difficult problem. Apart from the infective nature of the pleural effusion the prognosis is good if the case is recognized and dealt with at once. He urges treatment by thoracocentesis at the level of the exploratory puncture with withdrawal up to 1.200 grams of fluid, to be repeated in a few days if the dyspnoea and signs of hepatic displacement are not relieved. The treatment of the particular form of heart disease should be carefully carried out at the same time in order to limit the formation of further infarctions.

### (16) Pruritus in Syphilis.

PRURITUS has always been considered a rarity in syphilis, and generally speaking pruriginous features in an eruption have been considered sufficient to exclude a diagnosis of syphilis. Within recent years several facts have been recorded showing that this attitude is untenable; and Louis Regis (*Thèse de Lyon*, 1902) has collected several instances and observations which go to show that pruritus is not so uncommon in syphilis as has been supposed. Many forms of syphilides are accompanied by tingling and itching more or less marked in degree. The writer suggests that pruritus may possibly be independent of the syphilitic manifestation and that it is a superadded element in the case, appearing side by side with the syphilides in patients who show tendency to seborrhoea. Thus, in persons suffering from pruriginous syphilides, the treatment must be directed towards the possible seborrhoeic element as well as towards the dominant lesion.

### (17) Fever following Ratbite.

FRANCIS R. SHERWOOD reported recently (*Medical News*, June 20th) to the Chicago Medical Society a case of ratbite in a boy, aged 8 years. The rat had been caught in a trap the night before, taken to a vacant lot by some boys for the purpose of turning it loose and killing it, and when the rat escaped from the trap it ran over the boy's left foot and bit it over the inner malleolus. The bite was through the stocking. The wound healed promptly and caused the boy no trouble. At the end of three weeks he complained of pain in the foot and leg, headache, loss of appetite, and fever, which was reported to have reached 105° F. The fever continued off and on for about nine weeks from the commencement of the symptoms, or twelve weeks from the injury. The author stated that William A. Evans had made a very exhaustive study of the literature of the subject of ratbites. Evans had reported two cases which occurred in the practice of his father. Both ran a similar course to that of the author, except one had a more continued high fever. Evans had succeeded in collecting all the cases reported up to date, which is 64, 2 in European literature, 26 from American literature, and 36 reported by Miyake, of Japan. In his review of the cases Evans thinks that the diagnosis was somewhat doubtful in about 10 cases. Many of the writers thought there was a relation between the disease and rabies. "In a number of the early cases staphylococci and streptococci were found, probably due to secondary infectious as the result of lancing and poultices. A few of the early cases died from this cause, and one from tetanus. The incubation period in most of the cases was from two days to four weeks. Miyake reports one as five to six hours, and another as four years. Miyake divides the disease into three forms: (1) Febrile form with exanthemata; (2) afebrile form, with mainly nervous symptoms; (3) abortive form, unimportant. The symptoms as given by Miyake are pain at the seat of the bite, fears, tired feeling, headache, dyspnoea, small pulse, cold extremities, delirium, sensory and motor paralysis, collapse and death. The subacute variety has a well-marked incubation period, and most of the cases exanthemata, and lasts months or longer. The symptoms which Miyake gives in this form of the disease correspond very closely to those which the author found in his case, namely, reinflammation of the wound, pain in the muscles, breasts, and limbs, hoarseness, anorexia, nausea, vomiting, feeling of oppression, feeble pulse, cachexia, anaesthesia of the extremities (not present in the author's case), hallucinations, decrease in urine secretions, exanthemata, and urticaria. The pathology is not understood. Examination of the urine was negative in the author's case. The examination of the blood and inoculation experiments were also negative. The prognosis of the disease is good, apparently self-limiting. Treatment was symptomatic. The patient, who made a complete recovery, was exhibited to the Society.

### (18) Iodic Purpura.

J. B. CLELAND (*Thesis* for M.D., Sydney, 1902) records the case of a man, aged 59, who was admitted to hospital suffering from a swelling in the sternal region. As this was evidently gummatous, potassium iodide and liq. hydrarg. perchlor. were given; after three doses (amounting to 15 gr. of the one and 2 drachms of the other) the medicine had to be discontinued on account of violent vomiting. This having been subdued by lavage, the iodide was recommenced a week later. After taking 20 gr. he was suddenly seized with severe pains in the extremities. An extensive purpuric eruption rapidly developed, he became collapsed, and in thirty hours was dead. There was slight vomiting. *Post mortem*, recent ulcers—becoming gangrenous in places—were found in the stomach and small intestines, particularly the duodenum. The author considers that purpura is due to direct injury to the endothelial cells of the blood vessels, impairing their function, and that in the case under notice it might have been due to the elaboration of a combined poison by the joint action of potassium iodide and a factor constructed directly or indirectly by tissue metabolism. He further holds that all cases of purpura can be ascribed to similar poisons in which the factor potassium iodide is replaced by toxins, some of bacterial origin, the other factor being now more, now less, evident.

## SURGERY.

### (19) The Operative Treatment of Wounds of the Diaphragm.

Lenormant (*Rev. de Chir.*, May, 1903) deals with the surgical treatment of wounds of the diaphragm, and suggests some definite rules of practice based on a study of 31 recorded cases, 3 of which were under his own observation. It is held that in every case in which the surgeon is assured of the existence of a wound of the diaphragm with or without a visceral lesion, intervention is urgently indicated with the object of closing this wound, and of thus preventing any possibility of consecutive hernia. The author, indeed, goes still further, as he believes that even when there is no absolute certainty but only a probability of such injury, the surgeon should explore the track of the external wound, and make sure whether the diaphragm be wounded or not. The injured portion of the diaphragm should, it is held, be exposed through the wall of the chest by partial resection of one or two ribs. Statistics prove most undoubtedly the superiority of the transpleural method of dealing with a wound of the diaphragm, the mortality of laparotomy in such cases being 62.5, and that of thoracotomy only 13 per cent. When the wound in the diaphragm has been exposed and any protruded viscera returned into the abdomen, the simplest and most efficient way of dealing with the injury is to bring the edges together by direct suture. The author prefers this to the method practised by Walther and other surgeons of stitching the margins of the diaphragmatic wound to the margins of the incision in the thoracic wall. The author's views on the treatment of wounds of the diaphragm hold good also, he states, to cases in which there is concomitant injury of the abdominal or thoracic viscera. Intervention, moreover, is indicated by lesions of this kind on which depends so much the gravity of the prognosis. In those cases of somewhat frequent occurrence in which the diaphragm alone is wounded, the surgeon in following the practice here recommended will, the author believes, have the satisfaction of ensuring his patient against the invariably fatal risk of hernia by means of a simple and safe operation.

### (20) Tetanus after Injection of Gelatine.

Dieulafoy (*Bull. de l'Acad. de Méd.*, No. 19, 1903) reports a case in which a fatal attack of acute tetanus followed an injection of gelatine serum practised on a phthisical woman, aged 38 years, suffering from profuse haemoptysis. The solution had, it is stated, been very carefully prepared and subjected to boiling for more than half an hour. This, Dieulafoy points out, is not an isolated or exceptional instance, as what is regarded as the enormous total of 23 such cases has been recorded in the course of the past two years. All these cases present similar features, and it is well known at the present day that tetanus is imparted to patients because the gelatine used in the preparation of the injected serum contains the tetanic microbe. To avoid such terrible and frequent accidents it is necessary to abstain altogether from the practice of injecting gelatine serum, unless gelatine of absolute purity can be obtained for such purpose. It is necessary to be careful not only in preparation of the serum, but also in the fabrication of the gelatine itself. Dieulafoy asserts that in his own practice he has never used gelatine serum, and that he intends to hold to this exclusion in the future.

### (21) Results of Operations for the Radical Cure of Hernia.

Coley (*Annals of Surgery*, June, 1903), in a paper prepared chiefly to determine the permanent results of operation for the radical cure of hernia, states that of 1,003 cases under his own care, 647 were traced and found well from one to eleven years after such surgical treatment; 705 were well from six months to eleven years, and 460 were well from two to eleven years. This list of 1,003 operations shows 92 double herniae, or 911 individual patients; 937 were cases of inguinal, and 66 cases of femoral, hernia. Of the 911 patients, 212 were females. In about 700 cases the patients were under the age of 20 years. Bassini's methods both for inguinal and femoral hernia were practised in all these cases. These statistics confirm the opinion long held by the author that by far the greatest proportion of relapses occur within the first year after operation, and that most of them occur within the first six months. Patients who are quite well one year after the operation may therefore reasonably be expected to remain well, and after two years may be considered permanently cured. The author is a firm believer in the superiority of absorbable to non-absorbable sutures in operations for the radical cure of hernia. The occasional occurrence of suppuration usually attributed to imperfectly-sterilized sutures is chiefly due, it is held, to infection by the hands of the operator or his assistants. The proportion of instances of suppuration has been reduced from 4.2 to 1.25 per cent. since the author began to use rubber gloves in performing his operations. In discussing the indications for operation the author holds that such treatment is seldom advisable, except in cases of strangulation in subjects under the age of 4 years. In many of these cases, probably two-thirds, the hernia can be cured by a truss. In all adult cases under the age of 50 years, unless there are strong contraindications such as (1) serious organic troubles of the heart, lungs, or kidneys; and (2) a very large, adherent and irreducible hernia containing both intestine and omentum, especially in a stout individual, operation is advisable. Between the ages of 50 and 70 years operation is advised in healthy patients in cases in which the rupture is ineffectually retained by a truss.

### (22) Synorchidia.

Pascale (*Rif. Med.*, An 19, N 23) under the above title describes a conservative operation upon the testes designed to preserve as far as possible the functional capacity of that organ after portions of it have been removed for disease (chiefly tuberculous). Of the four successful cases published by the author three were cases of tuberculous epididymitis with cutaneous fistula and one of new growth (of uncertain character). The operation consists in the union of the sound testis with the remains of the diseased testis. The whole of the diseased epididymis and vas deferens are removed. The corpus Highmorianum is opened and examined for possible disease; then the terminal portion (rete vasculosa of Haller) is implanted into the sound testis, after removal of the intertesticular septum. The double testis is then invested with its usual coverings and fixed in the hemiscrotum. In the four cases upon whom this operation was practised the results were found distinctly satisfactory, the functional capacity of the testes remaining unchanged. By this mode of procedure the danger of infection is avoided, which is not the case in simple implantation of the vas deferens.

## MIDWIFERY AND DISEASES OF WOMEN.

### (23) Tubo-ovarian Varicocele.

Since Richet and Devalz first drew attention to tubo-ovarian varicocele and its supposed frequent association with retro-uterine haematocele, little attention has been paid by gynaecologists to this affection. Michel and Bichat (*Arch. Gén. de Méd.*, June 9th, 1903) distinguish two main varieties: (1) A varicocele of the broad ligament accompanying a pelvic tumour or a prolapse, and being of secondary importance compared to the main affection; (2) a tubo-ovarian varicocele, constituting the principal and essential lesion, being always secondary to an antecedent pelvic inflammation. They quote a case of the latter class in a patient, aged 24, who had suffered from pelvic pain, irregular menstruation, and leucorrhoea for five years. These symptoms commenced two months after an apparently normal puerperium, and followed a heavy fall. Vaginal examination showed a soft enlargement of the cervix with an old left-sided laceration, and bimanually a boggy thickening of the upper part of the left broad ligament, tender on pressure, was felt. The diagnosis of chronic cervicitis with salpingitis was made. Laparotomy was performed, when an enormous varicocele was found extending from the uterus to the parietal peritoneum on the left side. The ovary was small, atrophied, hard, and cystic; the tube was slightly thickened. Microscopic examination of the ovary showed an enormous dilatation of the lymphatic vessels at the hilum, and considerable fibrous thickening of the external coat of the veins. Various causes for tubo-ovarian varicocele have been given—want of support of the veins, congenital weakness in their walls, absence of valves (Dudley). Of mechanical causes, constipation, repeated pregnancies (Budin), pelvic tumours, uterine displacements, affections of heart, lungs, and liver, by inducing a venous stasis, may cause an alteration in the vascular walls. The authors suggest a totally different etiology for the case quoted—namely, an attenuated infection during the puerperium of the lymphatics of the tubo-ovarian pedicle, with extension to the neighbouring vessels, producing a periphlebitis with subsequent dilatation. In support of this theory they adduce the argument that there was a

cervical laceration on the same side as the varicocele, with great dilatation of the lymphatic vessels in the broad ligament. Further, the ovary on that side was sclerosed and cystic, which they consider evidence of an attenuated infection. De Sinéty has observed similar conditions in one other case, and the authors urge the careful examination of the lymphatic vessels in future cases and tubo-ovarian varicocele associated with a sclerosed and cystic ovary.

**(24) Chorea in Pregnancy.**

C. WALL AND H. RUSSELL ANDREWS (*Journ. of Obst. and Gynaec. of the British Empire*, June, 1903) discuss the causes and treatment of chorea in pregnancy, and give a detailed account of 40 cases occurring in 37 women seen at the London Hospital. That the cases were truly choreic in character was shown by the type of movements, which was indistinguishable from that of Sydenham's chorea. A woman's power of emotional control is diminished in pregnancy, and tends to revert to that of childhood, and the incidence of a disease otherwise confined to childhood is thus explicable. The predisposing causes of chorea in pregnancy closely resemble those of the same disease in children. In 16 out of the 37 patients there was a previous history of rheumatism; 23 out of the 37 had previously suffered from chorea, which in some instances was no doubt rheumatic in origin, and in others may have predisposed to the later attack by causing instability of the controlling centres. A small majority of the cases of chorea in childhood show physical or mental mal-development, and a corresponding case in an adult is here given. The patient in question was microcephalic, and had left school at the age of 14 in the fifth standard. Her mother was an epileptic. There was no history of rheumatism in herself or any member of her family. The determining cause of chorea is often worry. Examples are here given where the worry was due to illegitimacy of the child, fear of difficult labour, or dread of increasing an already large family. A sudden shock was in one instance the determining cause. Five only of the 40 cases ended fatally, 2 spontaneously aborted, and in 3 abortion or premature labour was induced. Both patients who spontaneously aborted, and two of the three in whom labour was induced, died. The proportion (5 per cent.) to spontaneously abort is lower than the average (16 per cent.) for normal pregnancies. The non-development of chorea in many cases till comparatively late in pregnancy in part explains this, yet the proportion is so small as to show that there is probably no great tendency to spontaneous abortion in cases of chorea. The mortality reported after induction of labour in these cases and in those of other authors is such as to render this procedure undesirable, and it has been discontinued at the London Hospital since 1895. The treatment recommended consists for the most part in ensuring sleep and quiet, and in providing good nursing and food, especially carbohydrate food. Bromides and opium are both dangerous if given in doses large enough to be effectual. The most satisfactory hypnotics are chloral hydrate or chloralamide given in small doses and infrequently. Alcohol is often used and is of more value than arsenic, but should not be given when arsenic is being systematically administered. Under such treatment the prognosis is good, both as regards the life of the patient and the natural termination of labour.

**(25) Removal of Appendix in Pregnancy.**

MONOD (*Comptes Rendus de la Soc. d'Obsét. de Gyn. et de Péd. de Paris*, May, 1903,) notes that according to Bapteste's statistics of 67 cases of acute appendicitis occurring during pregnancy, the mortality in 43 cases operated upon was 30 per cent. whilst in the rest, where no operation was undertaken, it was but 11 per cent. The operation cases, he points out, included the worst, for when symptoms were mild expectant treatment was nearly always adopted. Bapteste's statistics, however, show the gravity of appendicitis in pregnancy and Monod considers that in any case where that disease has occurred, the pregnant woman should be advised to have the appendix removed at once. Monod describes 3 cases of this practice which he terms *résection de l'appendice à froid*, in all the patient informed him when she consulted him for her pregnancy that she had suffered from one or more attacks of appendicitis and in all that disease was in abeyance. In the first case he operated in the sixth month and he was obliged to "fish out" the appendix from behind the caecum after freeing numerous adhesions. Yet the patient carried her child to term. This patient had gone through three attacks. The second had suffered from one only and the operation was performed in the fourth month. There was great hypertrophy of the appendix without adhesions. Delivery occurred at term. The last patient had experienced several bad attacks of appendicitis, and becoming pregnant desired an operation which was done in the third month. There were free adhesions. The pregnancy was progressing very favourably five months after the removal of the diseased organ, when the report was read. In a fourth case Monod anticipated trouble. A woman, aged 25, had a sharp attack of appendicitis in February, 1900. In April she was married and a fortnight later a severe attack set in. After waiting for five days Monod removed the appendix, which was severely diseased, its extremity lay embedded in dense adhesions which enclosed a small abscess. He operated on the principle that pregnancy would expose the patient to greater dangers. Pregnancy did not occur until late in 1901, and in June, 1902, she was delivered at term of a well-nourished male child which was reared and, like the mother, remains in good health.

## THERAPEUTICS.

**(26) Treatment of the Opium Habit.**

S. E. JELLIFFE (*Amer. Journ. Med. Sci.*, May, 1903) says that it is assumed by many that the opium habit is just the opium habit, and "there's an end on't." Such, he holds, is far from being the case, and he knows of no psychological problem that offers a more extended gamut of individual variation than this. Hence the laying down of general rules for its treatment is, in his experience, fruitless. The habit is a complex social-psychological network, and its treatment should take into consideration the many factors concerned in it. As far as the general grouping of the different types of the habit is concerned, opium takers may be classed as those who take the drug in the form of some one of its official preparations—laudanum, paregoric, the extract, etc., by the mouth, by the rectum, by the vagina, or other natural orifice; a second and very large class, if not the largest, absorb the drug through the respiratory mucous membrane by means of the pipe or by smelling; the third class includes those who take morphine or allied products by the mouths or subcutaneously by the hypodermic syringe. The habitual use of the drug is certainly distributed in New York City among about 30,000 individuals. Jelliffe believes that the fundamental psychological factors in the opium habit closely resemble those found in other drug habits, and that the phenomena noted for the opium habit have many features in common with those noted for the alcohol habit. This is not referring at all to similarities or dissimilarities in the physiological activities of the two drugs, but rather to the conception of what feelings the taking of the drug as an entirety, apart from individual sensational variations, gives the individual, and why he is induced to continue, and why it is difficult for him to stop. It is a well-known pharmacological fact that the stimulant narcotics are capable of affecting consciousness in two opposite ways: they either increase or diminish the intensity of the incoming stimuli, and this heightens or clouds the waves of conscious impressions. According to the evolutionary point of view adopted by Partridge in discussing the subject of alcoholism, the *habitué* may be regarded as one in whom the craving for intense states of consciousness is overdeveloped, or who is lacking in control, or one who, usually as a result of pain, has an abnormal craving to revert to a state of consciousness which is less intense. It is in this latter group that the great class of opium *habitués* may be classed. If he has acquired the habit, so soon as distressed or painful—sometimes termed nervous—sensations commence to crowd into his consciousness, then it becomes necessary for him to attempt to revert to a state of consciousness which is less intense and more agreeable. The cardinal principles on which a rational therapy are to be founded consist, according to the author, in the substitution of different ideas by suggestion and the substitution of different sensations by other drugs. These two factors, if judiciously combined, will certainly be of service in the most intractable cases. It is necessary in the first place, however, to obtain some relief from the actual sufferings of the morphinomaniac before one can use mental influences, and therefore the principle of substituted sensations must first be brought into play. Many drugs have been employed to bring about this purpose, but practically none have been of service out-

side of sanatoria or in patients confined to rooms and under surveillance. For such Jelliffe's experience confirms that of many others, that the bromide method is one of the very best. This method of late years has been termed the Macleod method, but as an actual fact the use of bromides is much older—how old no one can now say. The details of this method are as follows: 120 gr. of sodium bromide are given in half a tumbler of water every two hours during the daytime, until 1 oz. has been administered in the same day. This may be sufficient to produce the "bromide sleep," or the drug may have to be continued on the third day. It is a safe rule to stop the administration after twenty-four hours if the drowsiness is so profound that the patient cannot be aroused from sleep to take further doses, or when aroused is incoherent, since it is to be remembered that the drug acts in a cumulative manner. After the second or third day of the sleep, which may even deepen into coma, the bromide is withdrawn. There is usually some difficulty in feeding the patient, swallowing being sometimes impossible, so that rectal alimentation has to be practised; and a tendency to aspiration pneumonia, which occasionally manifests itself, makes feeding by the mouth doubly dangerous. Of the use of hyoscine in comparatively large doses, as advocated by many on the introduction of this drug, Jelliffe's experience is contradictory. It has proved of good service in stages of marked excitement, but its use has given him more than one unpleasant shock in that dangerous collapse has followed its administration. While being the last one to hold forward a single remedy for the treatment of such a complex condition, it seems that if once one is enabled to relieve the victim of the sense of *ennui* and unrest that afflicts him at the recurrence of his dosage time—be it once in six hours or twelve or every day or two, as the case may be; then with the relief given at such a time by other means than by morphine a point is reached where other means of influencing the patient are more liable to be of effect, both temporary and lasting. Much has been claimed of the newer morphine modifications—heroin, dionin, and peronin—within the past few years as fulfilling this very indication. From a somewhat extended use of these remedies Jelliffe believes this to be in part true; but they are by no means as efficient as many have been led to believe from too hasty a recital of the results. In the earliest days of his experience with these drugs the belief was engendered that Eldorado had been found; but, after waiting three to six months, it became apparent that in some cases he had simply substituted one habit for the other.

**(27) Aronson's Antistreptococcus Serum.**

THE results of many careful experiments made on animals with Aronson's antistreptococcus serum have stimulated expectation as to its value for man, and interest, therefore, attaches to Meyer's description (*Zeit. für diet. und physik. Therap.*, April, 1903) of the treatment with this serum of 18 cases of undoubted streptococcus infection, though the number of cases is too small to finally settle its value. In 5 out of the 18 cases beneficial results undoubtedly followed the use of the serum, in 2 the effect was doubtful, and in the remaining 11 none was produced. Three out of the 5 patients successfully treated were suffering from erysipelas of the face with fever, quick pulse and subjective symptoms. In 2 cases after one injection of 20 c.cm. of the serum there was improvement of all these conditions, the temperature of one patient falling from 103.1° F. when the injection was made at midday to normal within twelve hours. In the third case the erysipelas almost disappeared and the temperature dropped from 102.5° F. to 98.9° F. after the injection which was made on the thirty-first day of illness, but the pulse-rate increased for a short time. The fourth patient suffered from double suppurating tonsillitis. Rapid improvement followed the injection, and the temperature dropped 5.4° in twelve hours. The last case was one of puerperal fever. Two injections were made, and temporary improvement followed on both occasions. The injections were, however, discontinued because of a scarcity of serum, and convalescence was tedious. Three cases of erysipelas, 2 of scarlatinal rheumatism, and 6 of sepsis were not affected by the treatment. The lack of success is partially explained by the fact that most of the cases of sepsis came under treatment only at the end of the first week of illness. In one case of puerperal fever with two or three rigors daily the physician in charge considered that the rigors tended to supervene after the serum was injected. Meyer believes this sequence to have been accidental, but states that absolutely no benefit resulted in this case. In none of the cases did the injections cause any rise of temperature, and in only one any but the most trifling local irritation. Meyer points out that the use of the serum is not limited to such cases as have been given. Its employment is also indicated by way of precaution before operations, especially operations on mucous membranes containing streptococci, as for example those of the mouth and nose, and before confinements during epidemics of erysipelas. It does no harm when given in moderate doses, and does not in any way endanger the success of other methods of treatment; 20 to 30 c.cm. is an ordinary dose, but where the blood is swarming with streptococci as much as 50 to 60 c.cm. may be given. In erysipelas and in convalescence small doses often repeated give better results than a single large dose. The only contraindication to the use of the serum is the presence of considerable inflammation of the pericardium or pleurae. In such cases the mechanical results of the increased exudation caused by the serum might possibly cause death.

## PATHOLOGY.

**(28) Elastic Fibres in Cicatricial Tissue.**

DOMENICO TADDEI (*Le Fibre Elastiche nei Tessuti di Cicatrice*. Ferrara, 1903) describes his experimental researches into the origin and development of cicatricial elastic fibres. He has observed regeneration beginning about a month from the time of injury in scars produced both by first and second intention. The elastic fibrils of regeneration usually appear first in the superficial and peripheral parts of the scar. In the cicatrix of the wall of a jugular vein injured by lateral ligature the elastic fibrils appear first on the whole extent of the cicatrix in the subendothelial layer, and in this layer also appear first the newly-formed elastic fibrils in the aorta of a fetal sheep. New elastic fibrils, whether of regeneration or of embryonal new growth, appear as very thin homogeneous fibrils, tapering to their extremities, not branched, and of a size no greater than those of adult connective tissue. The descriptions by other observers of elastic fibres taking origin as granules Taddei ascribes to optic errors or to fatty degeneration caused by faulty histological technique. Both fibrils of regeneration and of embryonal new formation are a product of adult connective-tissue cells and of the endothelial cells of blood vessels (elastogenic cells). The first elastic fibrils are formed at the expense of the protoplasm and of the prolongations of the elastogenic cells. The stumps of pre-existing elastic fibres take no part in the regeneration. The elastic fibrils of regeneration, like those of embryonal new formation possess to a limited extent the power of increase in length and thickness. Increase in length comes chiefly by the fusion of corresponding ends of fibres lying more or less in the same plane. Increase in thickness comes by the fusion of neighbouring and parallel fibres. Taddei does not admit the increase of newly formed fibrils by the apposition of granules of elastin. The evolution of the elastic network in cutaneous cicatrices is slow, and subject to great variation. The greater development is undertaken by the peripheral fibres. Even in cicatrices as old as three years points may be found in which the development of elastic fibres is unfinished, but in cicatrices of the vessel walls the development of the regenerated fibres is quicker, and is complete in two and a-half months. The direction, calibre, number, and disposition of the regenerated elastic fibrils in the different planes of the cicatrix are analogous, but not identical with what is observed in corresponding planes of neighbouring normal skin. Up to a certain stage of development the regenerated elastic fibres maintain a direction parallel to that of the connective tissue elements. Taddei also describes the inclusion in the cicatrix of elastic fibres from the spot injured. Such fibres may be distinguishable for as long as three months, but after that time they shrivel up, lose their branches, undergo granular fragmentation and are removed by a process akin to phagocytosis. The scars on which these observations have been made are the cicatrix of the jugular vein of a rabbit treated by lateral ligature, the cicatrix following simple division of the skin of a rabbit's neck healing by first intention, cicatrices following deep burning of the skin of a rabbit's back and legs healing by second intention without suppuration, and cicatrices of the abdominal walls of the rabbit and dog, healing by second intention after a partial resection of the liver.