

and face in which injections were made in the sound tissue bordering upon the new growths. He injected four to eight minims of a mixture of equal parts of extract of chelidonium, sterilised water, and glycerine. Some pain and pyrexia resulted, together with a good deal of swelling around the tumour, and in one case supuration at the seat of puncture. In two of the cases the neoplasms disappeared, but in the other two, although there was distinct improvement, the cases could not be followed up (*Lancet*, Sept. 18, 1898).

48. Tincture of myrrh in diphtheria has been recommended, given internally every half-hour or every hour during the day, and every two hours at night (*Allgemeine medicin. Central-Zeitung: Lancet*, Jan. 1, 1898). The solution employed consisted of 4 parts of tincture of myrrh, 8 parts of glycerine, and distilled water up to 200 parts. This solution has also been used in an inhaler or spray when the larynx is affected. In the account, however, no mention is made of bacteriological verification of the diagnosis.

49. Bromide and iodide of strontium have been employed for exophthalmic goitre in children by Gillespie (*Brit. Med. Journ.*, Oct. 8, 1898) with exceedingly favourable results. He recommends that the bromide, on account of its deliquescence, should be given in solution rather than in powder. For adults he employs 10 to 30 gr. of the bromide, or 3 to 5 gr. and upwards of the iodide.

50. Salicylate of methyl applied locally.

Linossier and Lannois (*Bull. de l'Acad. de Méd.*, March 22, 1898) maintain that the therapeutic action of methyl salicylate, when applied locally, is due to actual cutaneous absorption, and not to the inhalation of the drug through the lungs. They assert that it is saponified in the blood and converted into sodium salicylate, and as an argument in favour of this method of employment they point to the rarity and slightness of toxic effects, vertigo and tinnitus being quite exceptional even after large doses. They recommend that it should be painted on the unbroken skin and covered with several layers of indiarubber. Ordinarily they employ 60 gr. as a dose, but in acute cases two or three times this amount may be given. They think it is of the greatest use in chronic rheumatic affections, but some benefit is claimed also for it in infectious and gouty arthritis, in neuralgia, and even in acute rheumatism.

51. Carbolic acid in the treatment of anthrax.

Scott Jackson (*Lancet*, March 5, 1898) describes a case of anthrax treated with carbolic acid, the patient being anaesthetised. Crucial incisions were made through the enlarged glands, and the wounds were swabbed out very freely with pure carbolic acid.

This drug was also given internally. The general condition improved rapidly, and the patient ultimately recovered. In this case no bacteriological examination was used, the diagnosis resting upon the history of the symptoms.

52. Iodol.

The employment of a 10 per cent. solution of iodol in collodion has been recommended for erysipelas. This is painted over the affected part, which, if necessary, has been previously shaved, and the application is extended for about an inch beyond the area involved. Some of the iodine is undoubtedly absorbed, since it can be detected in the urine. The beneficial effects of pressure exerted by collodion must not, however, be overlooked.

53. Artificial immunity by alkaloids.

Some interesting experiments have been made by Giofreddi (*Archiv. Ital. de Biol.*, t. 28, fasc. 3) in attempting to render dogs immune against vegetable alkaloids, using the same methods as are employed for immunising animals against bacterial toxins. It is, perhaps, rather difficult to understand the practical bearing of these experiments, but none the less the results are suggestive. Thus, with morphine, as might have been expected, the quantity injected was gradually raised until twice the minimum of a fatal dose could be borne without producing more than slight narcosis. The serum obtained from the animal thus immunised appeared to possess antitoxic properties: 10 c.cm. to 20 c.cm. sufficed to neutralise the effect of double the minimum fatal dose of morphine, if injected into a non-immune animal, before or at the same time as the latter. The results are, however, comparable to those obtained by the man who tried to induce his horse to live without food, since after six months, when the dog could bear very large doses of morphine, it died suddenly with fatty degeneration of the left ventricle, analogous to that sometimes met with in morphinomanics. Similar experiments with cocaine and atropine failed entirely.

C.—SERUM THERAPEUTICS.

54. The oxytuberculin treatment of tuberculosis has been reported upon by a committee of the faculty of the Cooper Medical College (*Lancet*, Jan. 15, 1898), and the conclusions reached are: (1) Oxytuberculin prevents the growth of tubercle bacilli in veal *bouillon*; (2) a positive therapeutic value has been demonstrated for it in the fifteen cases examined, the more clearly as no other treatment was used; (3) no dangerous or untoward effects have resulted from its use. Although the committee feels justified in certifying these facts to the profession, to the end that oxytuberculin may be thoroughly tested, the limits of its

successful application determined, and its place in therapeutics established at the earliest possible time, yet while some remarkable results have been obtained in advanced cases, no claims are made for the later stages of the disease.

55. "TR." tuberculin.

Stopford Taylor, who has been employing the "TR." tuberculin in the treatment of lupus vulgaris (*Brit. Med. Journ.*, July 9, 1898), finds that the local reactions are more mild than those produced by the old tuberculin; during the earlier treatment improvement was most marked, then came a period of no advance, and lastly, a stage of breaking down of healed ulcerations and the recrudescence of the disease. He further states that all his patients suffered from malaise, anorexia, pains in the back or weakness, and trembling of the legs.

At the Congress on Tuberculosis in Paris (*Brit. Med. Journ.*, Aug. 13, 1898), Koch's new tuberculin fell under discussion, and with one exception the speakers gave an adverse verdict. It was admitted to be less dangerous than the original tuberculin, but perhaps not altogether harmless, since some had noticed febrile attacks and exacerbations of the disease. The utmost in its favour was that, although it had fallen somewhat short of the promised effects, it might be useful as an adjunct in the treatment of sufferers from tuberculosis.

56. A case of tetanus successfully treated with anti-toxin is reported in the *Lancet*, Jan. 8, 1898. The masseters were at first firmly contracted, and there was spasm of the retractor muscles of the head. In addition to being treated with seventeen injections of antitoxin, this patient was also treated with morphine, and also with large doses of chloral hydrate and bromide of potassium at night. In spite of severe symptoms ultimate recovery occurred.

57. Serum against yellow fever (*Lancet*, Nov. 27, 1897) has been recommended by Professor Sanarelli, who has performed several experiments on dogs, horses, and guinea-pigs. He considers that the serum possesses the power of saving animals which are destined to succumb almost without exception to experimental yellow fever, and he thinks that this treatment might be useful in the treatment of spontaneous yellow fever occurring in man, while it possesses, moreover, distinct preventive action against the disease.

58. Fraser has been continuing his interesting investigations connected with venoms and disease toxins (*Brit. Med. Journ.*, Sept. 2, 1898). He had already shown that the bile of several animals possessed antidotal properties against serpents' venom and against toxins of such diseases as diphtheria and tetanus, and that the bile

of venomous or, more correctly, of noxious serpents, is especially powerful as an antidote against the venom of serpents. In view of his further experiments he thinks that the antidotal or curative effects of anti-venin and of disease toxins are of mechanical, or physical, and not of a biological nature.

59. During 1898 **anti-streptococcic** serum has been employed for a great variety of conditions, and the records are generally favourable. An interesting case of erysipelas, complicated by endocarditis, is reported by Magill in the *Lancet* of Feb. 19, 1898. The patient was a young man, who at first complained of soreness of the throat, with an extremely high temperature, but with no visible ulceration, no follicular tonsillitis, and no membrane. Two days later it was found that the left ear and parotid region were swollen and presented an erysipelatous blush. From this point the erysipelas spread to the rest of the face, gradually fading in the parts first affected. From the commencement of the illness there was slight pain about the cardiac region, and a loud mitral systolic bruit, and the temperature oscillated widely. It was at this time that the serum was employed, and the general condition rapidly improved, although the mitral murmur remained long after the patient was apparently well.

In the same number of the *Lancet* a case of puerperal septicæmia similarly treated is reported, and Nathan Raw makes two valuable suggestions: (1) That the presence of streptococci should be demonstrated before the serum is used, and (2) that the serum used should have a guarantee of being free from active organisms.

Another interesting instance of the use of this serum is reported in the *Lancet*, March 19, 1898. The case was one of scarlet fever, complicated with acute suppurative otitis media and acute hæmorrhagic septicæmia. Under the influence of the serum the temperature became more steady and the pulse and respiration improved. Although this patient appears to have been desperately ill, she ultimately recovered under the use of the serum, together with chloride of calcium, which was administered in view of the hæmorrhage.

The same number of the *Lancet* contains a report of a case of puerperal fever, which was also treated with the antistreptococcic serum. The symptoms mentioned are not very convincing, one of the chief elements in the diagnosis being that the woman had been attended by a "pseudo-midwife," in whose practice a fatal case of puerperal fever had recently occurred. It is stated, however, that although there were no local symptoms, the patient's general condition improved after each dose, and when the remedy was withdrawn for a time the case rapidly became worse.

60. Coley's fluid.

The treatment of inoperable sarcoma by means of Coley's fluid—a mixture of the products of the growth of the streptococcus of erysipelas and the bacillus prodigiosus sterilised by heat—formed the subject of a paper by Mansell Moullin (*Lancet*, Feb. 5, 1898). He gives details of five cases, of which three were apparently cured. In one the original tumour disappeared, and in another there was only a temporary diminution affecting one portion. Amongst the conclusions drawn from these cases, and from the exhaustive study of the literature connected with this subject, may be mentioned the following:—(1) That the proportion of cases of sarcomata that are cured by the injection of the mixed toxins depends, amongst other things, upon the histological character of the growths. Spindle-celled sarcomata are by far the most successful. This suggests the inference that the mixed toxins have a selective effect, even if it is not specific. (2) The disappearance of sarcomata is not due to inflammation, but to an intensely rapid form of fatty degeneration, comparable only to that which affects the lymphatic cells in acute yellow atrophy of the liver. (3) The toxins are of no use unless the cultures are taken from a virulent case of erysipelas, or are made virulent by passing the streptococcus through rabbits. (4) The bacillus prodigiosus, in spite of theoretical objections, has the effect of immensely increasing the reaction.

At the discussion, when this paper was read, Watson Cheyne called attention to the fact that in all Coley's cases the tumours had been of the spindle-celled variety. Colman, in describing the results of *post-mortem* examinations on two persons who had died of some intercurrent disease after being subjected to the treatment, said that in one there was a large area of softening in the interior of the tumour, and in the other cicatrices had been found which probably marked the site of past inflammation.

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