PART III.

SPECIAL REPORTS.

REPORT ON MEDICINE.

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I. FORMIC ACID IN THE TREATMENT OF DIPHTHERIA.

DRS. KERR and CROOM call attention to the value of formic acid as a powerful stimulant of striped muscle. It is efficacious in dispelling sensations of fatigue and in increasing muscular power. It has been used in various conditions of weakness.

Kerr and Croom undertook this method of treatment in order to note its effect on heart failure and on post-diphtheritic paralysis. It was thought that it might tend to prevent the occurrence of heart failure. During 1906 it was given systematically to all patients, from 5 to 20 minims of a 25 per cent. solution being administered every four hours. The dose was graduated more according to the severity of the case than according to the age of the patient. Under its action the pulse seemed less liable to weakness and irregularity than

might have been expected, and the patient's colour improved. No bad effects were noted. Their results are expressed by the following table :—

Year	No of cases	Deaths Per Cent.	Fatal heart failures Per Cent.	Paralysis Per Cent.	Albuminuria Per Cent.
1905 (No formic acid)	507	8.0	3.07	9.09	23.7
1906 (Formic acid)	412	6.2	1.94	2.9	15.7

While they cannot claim any great improvement as regards total mortality or heart failure, they note, with interest and surprise, the great diminution in the percentage of paralysis. Diphtheritic paralysis is generally regarded as of nervous origin ; if so, how can it be affected by a muscle tonic ? They suggest that it may be that the general improvement in nutrition so affects the nerves that their tendency to disease is lessened, or that the muscles may be primarily affected. The diminution in the amount of albuminuria is also striking. In any case the treatment seems promising.—*Ed. Med. Jour.*, June, 1907.

II. ATROPIN IN THE TREATMENT OF ASTHMA.

An extraordinarily prompt action of atropin in asthma is recorded by G. Zuelzer (*Therapie der Gegenwart*, September, 1906 ; *Berliner klinische Wochenschrift*, January 28, 1907). Almost immediately after the subcutaneous injection of a milligramme of the drug the area of pulmonary resonance is reduced by from three to five finger breadths, and the subjective sensations promptly subside. In a great majority of cases this remedy has shown itself of great value. Its action is explained by its paralysing effect on the pneumogastric nerve. Though, in experiments on animals, irritation of the vagus has been found to give rise to muscular spasm of the bronchi and to pulmonary distention, such results do not follow if atropin has previously been injected.—*N. Y. Med. Jour.*, March 30, 1907.

III. THE USE OF ARSENIC IN PNEUMONIA.

Dunn (*N. Y. Med. Jour.*, December 1, 1906) records ten cases of pneumonia which occurred about the same time, and in which arsenic was given in large doses with very favourable results. Enormous doses were tolerated in a surprising manner; 5 minims of Fowler's solution were given every two or three hours for several days without the slightest evidence of poisoning. In many of the cases the temperature fell decidedly about forty-eight hours after the commencement of medication, and the course of the fever was shorter than is usual.

IV. LOCAL USE OF MAGNESIUM SULPHATE SOLUTION IN INFLAMMATION.

Tucker finds that local application of magnesium sulphate rapidly relieves local pain. He has used such application in numerous cases of gonorrhœal epididymitis and orchitis, and finds that the pain is relieved in a few hours. It is not necessary to confine the patients to bed in every case, nor was elevation of the testicles used except to prevent the soiling of the bedclothes. In three cases of gonorrhœal rheumatism the pain was promptly relieved by the local applications, and they may also be used in local sprains and simple contusions. The salt is used in a saturated solution applied on from 15 to 20 thicknesses of ordinary gauze. This is kept saturated by renewal every half-hour at least, to prevent drying up. The gauze is not removed until the end of twenty-four hours. The parts are then washed with water, and the dressing is re-applied if indicated. There is then found a marked blanching of the superficial structures, which is not followed by any deleterious effects. The attendants who make the application complain that it causes a partial loss of sensation, accompanied by tingling of the hands and arms, which persists for twelve to twenty-four hours.—*Therap. Gaz.*, Phila., 1907, April, and *Ed. Med. Jour.*, July, 1907.

V. BARIUM CHLORIDE AS A HEART TONIC AND DIURETIC.

From the investigations of Schedel, in 1903, made upon patients suffering with grave cardiac lesions, this observer

stated that barium chloride was even superior to digitalis in regulating the pulse and blood pressure and increasing the functional activity of the kidneys. Following this publication, a number of other clinical observers gave the result of their personal experience with this drug, in which, while the action as a heart tonic was admitted, the authors refused to recognise the same action as digitalis. Recently Pesci (*La Riforma Medica*, Naples, April 6, 1907, and *La Clinique*, Paris, July 26, 1907) has given the conclusions derived from further investigation as follows:—(1) Barium acts as a muscular excitant; (2) the therapeutical dose of barium chloride is 20 to 25 centigrammes (grs. iii–iv) daily, which quantity in man produces an increase in the arterial tonicity; (3) toxic doses exercise a profound action upon the myocardium and arrest the heart in systole; (4) its influence is exercised directly upon the muscular fibre without the intervention of the nervous system. In ordinary doses, according to medications, barium chloride is perfectly tolerated by the system, and may be given in the therapeutical dose for ten days at a time. The dose may even be increased from 0.20 to 0.25 to 1.50 or 2 grammes daily, without causing nausea or vomiting like caffeine; or gastrointestinal disturbances, like digitalis; or renal troubles, like calomel and the balsams. The author calls attention to a possible danger of unduly increasing the blood pressure. During its administration its effects should be watched so as not to cause too great vascular tension, and especially large doses should not be given when the myocardium is weak. The diuretic effects of the drug were very noticeable in fifteen cases of pleuritic effusion, in which Pesci considers barium chloride to be the best, or most inoffensive, diuretic.—*N. Y. Med. Jour.*, Aug. 31, 1907.

VI. ON SYPHILIS OF THE LUNGS.

In the *Liverpool Medico-Chirurgical Journal*, July, 1907, there are four papers on this rare form of disease. We also note that Dr. Beriel (Paris) has published a work on this subject (Rev. in *Birm. Med. Jour.*, June, 1907). Syphilis occurs in several forms in the lungs, but the form chiefly alluded to in these papers is syphilitic phthisis. It forms a

picture hard to diagnosticate from tubercular phthisis. The following points are of importance :—

1. History of syphilitic infection or the presence of lesions elsewhere.

2. Absence of tubercle bacilli (it must be borne in mind that the two diseases may co-exist).

3. Dyspnoea generally greater than can be accounted for by physical examination. This is a prominent feature in this disease.

4. The locality affected. There is no special predilection for the apex ; in fact some observers consider that the root of the lung, the middle lobe, and the central portion of the lower lobe are the parts most likely to be attacked.

5. The effect of treatment. If the case has not advanced too far the prognosis under antisymphilitic treatment is good. It has been also noted that if iodide of potassium be administered to tubercular patients the number of râles in the lungs is generally increased ; while in syphilitic disease this does not occur.

VII. RECOVERY FROM TUBERCULAR MENINGITIS.

Hougardy (Liège) records such a case. A boy, aged ten years, had suffered for several months from a cough, and had spat blood, but these symptoms had abated. Then convulsions came on, and cutaneous hyperæsthesia ; the neck was rigid and the belly concave. The eyes were fixed, the pupils unequal and insensible to light. The respiration was stertorous, the pulse small and very rapid, and the temperature 105.4° F. There was no albuminuria, but Ehrlich's reaction was shown. The diagnosis was confirmed by lumbar puncture, which showed not only a supertension and lymphocytosis in the cerebro-spinal fluid, but also the tubercle bacillus.

The only treatment consisted in nutritive enemata, with a small hypodermic injection of morphin at night, to relieve restlessness, and lumbar puncture repeated every two or three days. The symptoms slowly yielded and the temperature fell by lysis for nearly a week, and then was subnormal for two days. At the end of three weeks the child recognised its mother, and began to talk intelligibly. Another lumbar

puncture, a few days later, still revealed an excess of lymphocytes, but showed no tubercle bacilli. The child's condition continued to improve in a most satisfactory manner, and when presented he had been entirely free from morbid manifestations for nine months. His intelligence was intact and his motor functions and special senses were normal.

This case, and also another case of the same disease in which recovery occurred after the same treatment, emphasise the value of lumbar puncture as a therapeutic agency.—*N. Y. Med. Jour.*, June 29, 1907.

Riebold emphasises the therapeutic value of lumbar puncture. He gives the following rule respecting the frequency with which the puncture should be repeated:—If the initial pressure of the cerebro-spinal fluid is equal to 25 or 30 centimetres of water, and if after 25 or 30 cubic centimetres have been removed the pressure still reaches 10 or 12 centimetres, the puncture should be performed daily; symptoms of cerebral pressure and headache also call for frequently repeated puncture. On the other hand, if the temperature sinks, and if the amount of albumin in the cerebro-spinal fluid diminishes, it may be inferred that the inflammatory exudation is lessening and that the punctures need not be so frequent.—*Münch. med. Wchschr.* 35. 1906.

VIII. THE FREQUENCY OF ALBUMINURIA AFTER SCARLATINA.

In a paper on albuminuria, Heywood records some interesting observations undertaken to ascertain whether scarlatina produces any permanent effect on the kidneys. He examined the urine of thirty-nine children who had had scarlatina from one to four years previously; in thirty-six of the cases there never had been either dropsy or uræmia, in three the history could not be satisfactorily obtained. All the children at the time of examination appeared to be perfectly well. The tests used were nitric acid, and heat and acetic acid. In nineteen cases albumin was found; in four cases it was of the orthostatic type, appearing soon after the erect posture was assumed and disappearing on lying down. In eight it was cyclic in type, being found only in the middle of the day. In one case albumin was always present, and in

six it appeared irregularly. The conclusions he draws are as follows :—

1. About 50 per cent. of children, who have passed through an attack of scarlet fever, suffered from residual albuminuria.

2. Residual albuminuria is not a purely transitory affection, as the percentage of albuminous cases is about the same for those tested during the first year and for those tested during the second and third years.

3. Early and late residual albuminuria do not differ much in type.

4. The younger the child is, when attacked by scarlet fever, the less liable is he to suffer from residual albuminuria.

5. Sex does not appear to affect the incidence of residual albuminuria.—*Med. Chron.*, June, 1907.

IX. ACUTE PULMONARY ŒDEMA.

Riesman contributes a paper on this subject to the *Am. Jour. of Med. Sci.* His conclusions are as follows :—

1. There is an acute pulmonary Œdema that comes on without any apparent exciting cause, and often kills in a short time.

2. Recovery from an attack is frequent ; but there is a striking tendency to recurrence, subsequent attacks being similar to the first. They set in suddenly, usually at night, and place the patient's life in jeopardy.

3. The clinical causes are various ; arterio-sclerosis and cardiac and renal disease are most important.

4. The pathogenesis is obscure ; vaso-motor disturbances and a disproportionate activity of the two ventricles (the right predominating) are the chief factors.

5. The chief symptoms are agonising dyspnoea, cyanosis, cough, expectoration of frothy albuminous fluid, and profound prostration. Over the lungs, often more over the upper than the lower portions, the characteristic moist râles of Œdema are heard.

6. The most valuable remedies are bleeding, dry cupping and cardiac stimulants.

7. The condition is of sufficient importance to warrant its having a special chapter in the text-books of medicine.—*Scot. Med. Jour.*, July, 1907.

X. A CASE OF ENTERIC FEVER IN WHICH THE ACTION OF THE TYPHOID VIRUS WAS DIRECTED MAINLY TOWARDS THE KIDNEY.

Drs. Napier and Buchanan (Glasgow) record an instructive case. A young man was ill for three weeks before consulting a doctor, during which time he had a cold, and the urine became red for a time, and then regained its normal appearance. When examined his temperature was high, varying from 102° to 105° ; his urine was scanty and contained blood and albumin in large quantities, in fact presented all the characters of the urine of acute nephritis. In it were found enormous numbers of typhoid bacillus in pure culture. The blood gave Widal's reaction, but there were no other signs of enteric, and the fæces did not contain typhoid bacilli. The case made a slow but satisfactory recovery, and it is important to note that typhoid bacilli were found in the urine for quite four months from the onset of the illness.

Noteworthy points are that acute Bright's disease may be caused by the typhoid bacillus, and that the urine may be capable of conveying infection for as much as four months. Urotropin was given for months, but with no apparent effect.—*Glasgow Med. Jour.*, Dec., 1906.

XI. SALIVATION IN CHOREA.

Price (Philadelphia) calls attention to the rarity in chorea of the occurrence of an excessive secretion of saliva associated with constant dribbling, and mentions three cases in which this symptom was present. All these cases were severe, and the tongue and the jaw-muscles were affected by the choreic movements. He believes the symptom to be of purely mechanical origin, the movements of the tongue and muscles of mastication exciting the salivary glands to increased activity, and the involvement of the tongue, jaw, palate, and pharynx so interfering with swallowing that the saliva is retained in the mouth, or dribbles from the corners.—*N. Y. Med. Jour.*, April 27, 1907.

XII. A URINARY TEST FOR HELMINTHIASIS.

A Russian physician, Dr. Iéfimov (*Vratchébnaya Gazeta*, 1906, No. 43; *Bulletin médical*, November 14th), affirms that

he has discovered a sure sign of the presence of intestinal worms. From five to ten cubic centimetres of fresh urine (which need not be filtered unless it is turbid) should be boiled in a test tube, and from five to ten drops of the official solution of acid nitrate of mercury added. If the individual is free from worms, the urine becomes milky and deposits a white precipitate ; if he has worms, the precipitate is grayish or blackish—darker if the parasite is a tape-worm, lighter if it is a round worm, though the difference is not decided enough to be diagnostic. It must be ascertained that the person has not recently taken an alkali, a sulphur compound, Dover's powder, certain preparations of iron, or any compound of lead, for any of these may enable the mercurial to throw down a similar precipitate. Dr. Léfimov supposes that the reaction is due to a toxin elaborated by the parasite, absorbed into the blood, and finally eliminated in the urine.—*N. Y. Med. Jour.*, Dec. 29, 1906.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF
PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1908, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and must be received by the Secretary of the College, Thomas R. Neilson, M.D., on or before May 1, 1908. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College ; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1907 has been awarded to Dr. William Louis Chapman, Providence, R.I., for his essay entitled "Post-Operative Phlebitis, Thrombosis, and Embolism."