

Original Communications.

NOTE ON THE CONNECTION BETWEEN PAPILLITIS AND CHRONIC CEREBRAL DISEASE.

BY SURGEON A. LEAHY, F.R.C.S., ENG.,
Indian Medical Service.

CASES of papillitis, depending for their origin upon chronic cerebral disease, are constantly being met with in practice, and the connection between the two diseases is most interesting. It is not at all uncommon for the Ophthalmic Surgeon to be asked to examine a case in which, with marked symptoms of chronic cerebral mischief, there is at first cloudiness and indistinctness of vision, gradually ending in complete blindness, which the ophthalmoscope shows to be due to optic atrophy. Sometimes only one eye is affected—generally both. The progress of these cases is, as a rule, slow, and it is only when the chronic cerebral lesion is of specific origin that they terminate in recovery, and medicinal methods of treatment are successful. If a patient, suffering from papillitis due to some chronic cerebral affection, be examined with the ophthalmoscope at the period when his vision is just beginning to fail, the disc will be found to be reddish in color, perhaps almost scarlet, velvety in appearance, somewhat swollen, and prominent, with its choroidal margin indistinct and woolly. The tissues around the optic disc and in its immediate vicinity may or may not be the seat of engorgement and effusion. This condition of the papilla commonly ends in atrophy of the nervous elements. Most authorities agree that the pathological changes which occur in papillitis, dependent upon chronic cerebral disease, are undoubtedly inflammatory in their nature; but they do not, by any means, agree in explaining how the inflammation of the optic papilla arises. The theories advanced, may be called the mechanical and the infective. The mechanical theory was originally put forward by Von Graefe, who taught that in papillitis associated with cerebral disease, pressure was exerted on the cavernous sinus, either by an accumulation of fluid, or by a growth, and that the return of venous blood from the retina and choroid was interfered with, and ended in passive congestion, which was ultimately relieved by effusion. But, against the acceptance of this theory, we must bear in mind the free anastomosis that exists between the veins of the orbit and those of the face and temporal region. If from any form of intracranial pressure, the free circulation of the

blood in the cavernous sinus was interfered with, this anastomosis would at once open its flood-gates and relieve the venous congestion. The second principal theory advanced in explanation of the way in which papillitis is produced in cases of chronic cerebral disease, is the infective theory, by which it is believed that the fluid which is found occupying the sheath of the optic nerve, in cases both of cerebral tumour and meningitis, possesses the power of infecting the tissue of the nerve with which it is in contact, and so produces inflammation. Leber, of Göttingen, has examined this fluid microscopically, and found it loaded with inflammatory products; and again, the tissues of the optic nerve itself, although presenting nothing abnormal in appearance to the naked eye, have yet, when examined under the microscope, shown inflammatory infiltration and marked tissue changes. The question as to which view is correct, is still a vexed one, and though both sides are strongly supported by reasoning, the reasonings are mostly hypothetical in character. The following description illustrates a case of papillitis depending probably upon the existence of syphilitic cerebral tumor, and shows that a great deal may be expected from early treatment with anti-syphilitic remedies. A Hindoo aged 30 contracted syphilis at the age of 20. The sore was two months in healing, and was followed by well-marked secondaries, affecting the skin and throat, six months afterwards. Five years later, he suffered from cranial periostitis, for the relief of which he was treated in Bombay. In last September he came to me complaining of failing sight, squint, and vertigo, attended with difficulty of speech. His left eye squinted downwards and outwards over the shoulder, and there was persistent dilatation of the pupil of the left eye, the iris being insensible to light. The vision of both eyes was slight, he being only able to see large objects close to him when in a good light. He complained of loss of memory, and his articulation was slow and halting. Examination of the right eye by the direct method with the ophthalmoscope showed the disc swollen and prominent and of a bright red appearance, while its margins were exceedingly indistinct and somewhat striated. On September 2nd, he was given twenty grains of iodide of potassium with drachm doses of solution of perchloride of mercury twice daily, after his food. He continued taking this for eight weeks, and during that period his symptoms gradually disappeared. The squint first improved, and was followed by his regaining a considerable amount of the lost vision. The aphasia disappeared, but he still complains of slight loss of memory. His optic discs were last examined by the direct method on December 8th, and nothing abnormal could be seen. It is un-

doubtedly difficult to speak with any amount of certainty as to where the cerebral lesion (if any) was located. There, is however, no room for doubt that the motor oculi was affected, and the aphasia would seem to point to the left inferior frontal convolution having been the seat of mischief. The case appears to show that where papillitis is dependent upon specific disease, and where the surrounding retina is not the seat of any lesion due to the poison, we may expect much from the exhibition of anti-syphilitic remedies.

Jalra Patan.

ON THE RELATIVE DIGESTIVE VALUE OF FAIRCHILD'S PEPTONISING POWDERS, PEPSINE, AND PAPAYA JUICE ON MILK.

By G. C. ROY, M.D., F.R.C.S.

BEING a subject of chronic albuminuria, I once attempted on myself the milk diet treatment, and with that view, obtained some peptonising powders, which are sold in the market in small glass tubes, enclosed in a small box. I have myself recommended these to several of my patients, and have seen them in favour amongst other busy practitioners. Pancreatine is the active fermenting agent of the secretion of the pancreas, as pepsine is of the gastric juice. It is said to be specially valuable and effective in regard to the digestion of milk, which in the stomach is thrown down as an insoluble curd. To prevent this curdling of food in infants, various artificial foods have been invented, in which the pancreatine takes a prominent part. The object of the pancreatine is to digest the milk without the formation of a curd, so that if it be previously mixed with milk and treated in the way given in the direction that accompanies each box, the milk is half digested or peptonised, and as such, it loses its curdling virtue, and becomes easily assimilable. On principle, no better solvent exists for infants' food, or for those invalids, for whom milk constitutes the principal dietary. But I was doomed to disappointment in my instance, when having prepared the milk in the usual way, I took it after an hour, and found it curdled. This gave rise to a suspicion in my mind as to its real efficacy, and for which the following experiments were undertaken:—

Three test tubes with one ounce of milk in each were treated, one with 2 drops of Hydrochloric acid and 2 grs. of pepsine, the 2nd with 2 grs. of Fairchild's Powder, and the third with 6 drops of papaya juice, and all immersed in tepid water for three hours, to allow full action of the ingredients. By the end of that time, the pepsine tube had curdled, and the curd settled at the

bottom. The two others were uniformly liquid. Ten drops of Hydrochloric acid were then added to each, and they were left for three hours more. The curd in the pepsine tube was unaffected. The pancreatine tube had a lump of soft curd floating in it, whilst the liquid in the papaya tube was still uniformly fluid and had separated into two layers, the clear fluid at the bottom and white milky cream at the top in the proportion of $\frac{2}{3}$ rds to $\frac{1}{3}$ rd. Next day the curd in the pancreatine tube had dissolved and got uniformly mixed up in the fluid. Both of them were strongly acid in reaction and sweet in odour, and under the microscope both revealed only fat globules, and passed through the filter without leaving any sediment.

The conclusion I draw from these experiments is this, that, in the stomach, milk is thrown down as an insoluble curd, and is acted upon afterwards by the pancreatic secretion in the bowels. If milk is previously treated with pancreatic powder, warmed, and then drunk, there is nothing to prevent it from curdling again in the acid secretion of the stomach, though on its onward journey it again becomes dissolved and assimilable. But the papaya juice surpasses all the ferments in its solvent property on milk. Treated as with pancreatic powder, the papaya will prevent further curdling of milk, and its action is more rapid. About 13 or 14 years ago, I was the first person to undertake systematic experiments with it, and enunciate the virtue of its solvent action on all nitrogenous principles of food, and since then, though its active ferment (papain) has been isolated, it has made very little advance in therapeutics. It is a pity that an indigenous substance so easily procurable, and so pronounced in its effect, has not received due consideration in the hands of our Indian practitioners. It is time that we should shake off our prejudices, and begin to prescribe it in cases where indigestion is the result of atony and want of the healthy secretions of our digestive organs. In connection with the subject of infant dietary, I think it ought to be known amongst our countrymen, that in cases where it becomes necessary to wean an infant, and where cow's milk disagrees, the Swiss condensed milk is an admirable substitute. I prepared some milk, in the proportion of 2 teaspoonsful to one pwa of water, till by testing by the lactometer it stood at the point of purity. The casein removed out of it was nearly one-half the quantity obtained from an equal quantity of pure cow's milk. Containing, therefore, half the quantity of casein, and more sugar and cream, it is more allied in composition to mother's milk. Besides, the casein out of it does not precipitate in lumps, but in fine powder, which ought to make it more digestible and assimilable in infants.