

OTITIS MEDIA AND DEAFNESS

Many a schoolmaster and parent must have heaved a sigh of relief after the Lent term has passed without any severe dislocation of school routine from acute infections, especially those in which the brunt of the attack is on the upper respiratory tract. One of the ever-present risks of such infection is the spread of organisms to the middle ear along the Eustachian tube. As a complication of the infectious fevers, and as an event secondary to streptococcal infection of the throat, otitis media is one to be most dreaded, not only because of its immediate dangers, but also because of the more remote disability of permanent hardness of hearing. Of its frequency as a complication in childhood there can be no doubt. Dr. J. H. Ebbs,¹ for example, in a post-mortem examination of 880 children who had died from various diseases, four-fifths of whom were under 2 years of age, found pus in one or both ears in 52.8 per cent. In view of the gravity of the condition in childhood it is evident that every preventive measure should be encouraged, and in this connexion we might refer to the importance of segregating the adult with "a cold" or influenza from children living in the same house. With children of school age the school medical officer is by the nature of things more apt to discover the "chronic ear," and in detecting this the value of routine inspection with the electric otoscope, recommended by the chief medical officer of the Board of Education in his report for 1934, was made quite clear in these columns by Dr. F. J. Lishman.² Apart from measures for preventing middle-ear infection, the next most important step is to detect the acute stage at the earliest possible moment, for in the correct treatment of this lies the hope of preventing immediate disasters and chronic otorrhoea. Disease of the middle ear is probably the cause of 90 per cent. of the cases of acquired incomplete deafness in children, and between them streptococci and pneumococci account for nearly all middle-ear infections. In view of their predominance as the causative agents in otitis media, Mr. F. J. Cleminson suggests in a letter in this issue (p. 242) that school medical officers during the current Lent term should keep a special look-out for signs and symptoms of acute otitis media and institute immediate chemotherapeutic attack. Although in chemotherapy the ideal procedure is to identify the organism first, practical considerations and the time factor support his recommendation that a sulphonamide compound should be administered as soon as a clinical diagnosis has been made. Fortunately we have in M & B 693 a compound which is effective against pneumococci as well as against streptococci, and Mr. Cleminson suggests that the school medical officer should consider giving this to all cases. "Probably," he writes, "the most suitable moment would be at the onset of an earache," but where this complaint was at all vague the medical man would probably also prefer to have the objective evidence afforded by the appearance of the drum. This seems to be rational therapeutics and sound preventive medicine, and we would therefore support Mr. Cleminson's request that school medical officers should send in to him at the

¹ *British Medical Journal*, 1937, 1, 1084.
² *Ibid.*, 1937, 2, 1165.

end of the term notes of cases of otitis treated in this way. Bacteriological data, when obtainable, would add to the value of such information, the points of interest being the nature of the primary infection in the throat, and particularly that of any case of suppurative otitis media developing in spite of treatment.

ACETANILIDE POISONING

Acetanilide was introduced as an antipyretic in 1886. By 1890 twenty-three cases of acute poisoning had been observed, a few of which had proved fatal. Four hundred American physicians replying to a questionnaire in 1907 gave records of 840 cases of acute acetanilide poisoning with twenty-eight deaths, and described in addition 136 cases of chronic abuse of this drug. Lundsteen, Meulengracht, and Rischel¹ have recently studied in Copenhagen eleven cases of chronic abuse of acetanilide. Cyanosis was the most striking sign, and analysis of the blood showed that this was due chiefly to coloured derivatives of para-aminophenol, only relatively small amounts of methaemoglobin being present. In 1926 Young and Wilson² proved experimentally that the changed colour of the blood in acute acetanilide poisoning was caused by these coloured derivatives of para-aminophenol, and they were actually unable to find any methaemoglobin though they noted the presence of some sulphaemoglobin. The cyanosis which may follow the administration of sulphonamide also results quite often not from methaemoglobin but from coloured products derived from the drug itself. The continued abuse of acetanilide brings about a peculiar and strong addiction which is not relieved by other antipyretics. Fatigue, headache, anaemia, and loss of weight follow, and, since the fatigue and headache are temporarily relieved by the drug, a vicious circle is established. It should be remembered, too, that acetanilide addicts—like other drug addicts—will resort to all kinds of tricks to obtain supplies. The authors point out that at present in Denmark any prescription for mixed powders containing acetanilide holds good for five years, during which time the same prescription can be repeated as often as may be desired. They suggest that some change in the present practice might well be made.

ARTERIOVENOUS ANEURYSMS

There are few more fascinating abnormalities than arteriovenous aneurysm. Often arising in dramatic circumstances, and producing a remarkable array of physical signs, it offers most unusual opportunities for the elucidation of simple circulatory problems and for the exercise of surgical judgment and skill. Most cases are traumatic in origin and the condition is not so common in this country as in the U.S.A., where shooting at human targets seems to be a more popular pastime than here. Ten cases have recently been described in detail by Reid and McGuire³; in four of these the main artery of the upper limb was involved and in three of the lower limb, while the external

¹ *Acta med. scand.*, 1938, 96, 462.

² *J. Pharm. exp. Therap.*, 1926, 27, 133.

³ *Ann. Surg.*, 1938, 108, 643.

carotid, occipital, and orbital arteries were each concerned in one case. Not all cases of arteriovenous fistula are traumatic, and discussing Reid and McGuire's paper Lehman⁴ gives an account of a man of 37 with syphilis who had a fistulous communication between the abdominal aorta and inferior vena cava. The diagnosis was made on a pulsating abdominal tumour with a continuous thrill and murmur accentuated in systole, an enlargement of the veins of the abdominal wall and thigh, and a high pulse pressure. At operation the aortic aneurysm was found to be on the point of rupture into the abdomen and to be surrounded by densely inflamed tissues. In spite of ligating the aorta and vena cava above and below the sac, the latter began to leak and could only be controlled by packing. The patient died next day. The diagnosis of arteriovenous fistula can usually be made simply from the presence of a pulsating tumour carrying a thrill and a bruit and disappearing on proximal compression of the main artery. Less simple are the problems of how certain functional changes arise in association with this condition. The obvious result of short-circuiting the main current of blood to a limb would be to reduce the supply to the periphery; symptoms of ischaemia are, however, rare, occurring only once in the present series and then only after an abortive attempt to cure a popliteal aneurysm by proximal ligation of the artery. On the contrary, the affected limb seems sometimes to be more vascular, since in young subjects it may grow to a greater size than its fellow. In three of Reid and McGuire's cases peripheral nerve palsies, apparently due to pressure of the aneurysmal sac or of the enlarged veins on the adjacent nerves, were cured by excision of the fistula. The most remarkable change associated with arteriovenous aneurysm of large vessels such as the femoral is enlargement of the heart or, occasionally, heart failure. An interesting example is recorded by Reid and McGuire: A man of 30 with a large arteriovenous fistula of the femoral vessels following a gunshot wound fifteen years previously was admitted with gross enlargement of the heart and severe congestive heart failure which did not respond to rest. Excision of the fistula led to rapid disappearance of the failure and ultimately to a return of the heart to normal size. No one is yet agreed as to what causes the enlargement. Lewis and Drury⁵ in 1923 noted that in their cases of arteriovenous fistulae with cardiac enlargement the general venous pressure was normal and was not affected by temporary compression of the fistula. On the basis of this and of other evidence they concluded that an increased cardiac output had not occurred and could not therefore be held responsible for the enlarged heart, which they attributed to deficient coronary flow consequent on the very low diastolic arterial pressure associated with the fistula. Harrison, Dock, and Holman,⁶ on the other hand, found increases of about 100 per cent. in the cardiac output of dogs developing cardiac enlargement as a result of experimental arteriovenous fistula. It seems probable, as

Lewis and Drury recognized, that the cardiac output may be increased when the arteriovenous leak is big enough, but their evidence of a normal venous pressure in human cases which have not progressed to the stage of heart failure is entirely supported by Reid and McGuire's experience. The only effective treatment for arteriovenous fistula is surgical, and it is essential for success that the arteriovenous opening should disappear. The best way of achieving this seems to be extirpation of both artery and vein at the site of the fistula, with ligation of all the arterial and venous connexions of the sac. If for technical reasons extirpation is impossible, then ligation and division of as many as possible of the vessels joining the sac and transfixion of the fistulous opening with braided silk ligatures are usually effective. The operation to be avoided at all costs is simple proximal ligation of the artery, since this is often followed by gangrene of the limb.

ASTHMA RESEARCH

The Asthma Research Council reports another year of steady work in its various clinics and laboratories.¹ The Guy's Hospital asthma research clinic has for some time past been studying small but carefully selected groups of patients. The results of general treatment without specific treatment have proved at least as good as the results of general treatment combined with desensitization to inhalant proteins, and better than those obtained from desensitization alone. Preliminary work does not lead the staff of the clinic to expect any dramatic confirmation of the value of vaccines. Secondly, they have had further clear evidence of the importance of the psychological factor in the effects of treating rhinorrhoea with normal saline only. Out of thirty-two patients thirteen were cured or much improved, six showed some improvement, and thirteen none—better figures than those obtained in 1936 with a solution of mixed inhalant proteins. This year they intend to investigate the results of pollen desensitization in hay fever. Reviewing the last five years' work, they find themselves forced to conclude that protein desensitization and vaccine therapy have not been successful enough; they propose, however, to see if methods can be improved. Dr. W. A. Mann is investigating skin tests in the hope of finding out whether there is a correlation between skin sensitivity and clinical sensitization. He will try to produce attacks of asthma by the use of allergens to which the patient's skin is sensitive. The clinic staff also propose to study in greater detail the non-allergic factors which may determine the individual attack of asthma. The workers at St. Mary's Hospital are increasingly adopting the principle of self-inoculation for hay fever, and last year issued 403 sets for home desensitization. "Rush" courses have also been successful. Both these methods, however, are either tedious or troublesome, and Dr. David Harley is working to simplify desensitization by improving the antigen. The King's College Hospital clinic reports excellent clinical results from extracts of

⁴ *Ann Surg.*, 1938, 108, 694.
⁵ *Heart*, 1923, 10, 301.
⁶ *Ibid.*, 1924, 11, 336.

¹ Copies of the report free from Asthma Research Council, c/o King's College, Strand, London, W.C.2.

mixed pollens. Short-wave currents have been found at St. Thomas's to clear up chronic rhinorrhoea, the best results being obtained in combination with breathing exercises. A clinic meeting one day a week has been started at Manchester Royal Infirmary in co-operation with the appropriate subdepartments. Funds are needed for a research worker. At King's College, London, Dr. G. E. Malcomson and Mr. I. McWhan have continued their study of the anti-anaphylactic action of certain dyes in the intact animal as opposed to isolated organs. No certain effect has been found so far. On the other hand they have confirmed the anti-anaphylactic action of certain narcotics. At St. Bartholomew's Hospital Medical College Dr. J. D'Silva has continued his studies on the effect of adrenaline on the blood potassium. Since October, 1937, the research workers and members of the Research Council Advisory Committee have published ten papers in various periodicals. The Asthma Research Council therefore shows substantial progress, and its policy of using its funds to pay grants to qualified research workers is amply justified.

ALLERGY TO INSULIN

With early preparations of insulin a considerable proportion of patients developed inflammatory reactions, many of which could be prevented by changing the make of insulin—say, from pig to beef insulin. As preparations of insulin became increasingly purified from other proteins the number of local reactions became less. But there have been, and still are, some 10 to 15 per cent. of patients who have local inflammatory reactions. In a typical case of this kind large local inflammatory reactions appear after seven to ten days of injections; these swellings persist for another two to three weeks and then disappear completely. Such reactions are found with equal frequency with all brands of ordinary soluble insulin and with the new zinc-protamine-insulin. They rarely persist for more than a month. These patients apparently develop a local allergic reaction to insulin of any kind and gradually get over this phase by becoming desensitized again. Such reactions are more common in women than in men. Unfortunately a few diabetics react severely to insulin and develop pronounced local or generalized urticaria, or even still more serious anaphylactic symptoms such as joint pains and profound collapse; these are relieved by adrenaline in the usual way. Such a state may follow the first dose of insulin, but is more common and severe, as one might expect, when insulin has had to be re-started after a period of omission. It is quite clear on clinical grounds that insulin preparations have antigenic properties, and the exact nature of this has been carefully investigated by several laboratory workers, the most important and exact contribution being by Lewis.¹ Using the uterus of the virgin guinea-pig with the Schultz-Dale technique, he tested animals sensitized to beef and pig insulin against these insulins and also with extracts of beef and pork muscle and pancreas. His results clearly demonstrate that the insulin protein mole-

cule is itself an active antigen. Since it does not react with pancreas protein, its specificity is independent of the other protein constituents of the pancreas. He also shows that insulin protein is without species specificity, and that insulins from different animal sources are closely related immunologically. Bernstein² has recently obtained similar results by producing allergic shock in guinea-pigs. The condition of severe allergy to insulin is very serious for diabetics who would die without insulin. Fortunately the condition is exceedingly rare, but every now and again cases are reported in the literature, mostly from America. Fortunately they can usually be desensitized by beginning with minute doses subcutaneously (say, 1/250 unit) and working up the dose progressively until desensitization is achieved and useful therapeutic doses can be tolerated. Graham has described such a case,³ and Herold has lately recorded another example of successful desensitization.⁴ Probably the condition is more frequent than the literature suggests. The addition of 1 or 2 minims of adrenaline to the insulin seems to allow the toleration to insulin to be more quickly re-established. Some of these patients have a history of sensitivity to other protein molecules, as shown by previous asthma, urticaria, and so on. But this is absent in others who seem to be specifically sensitive to the insulin molecule alone.

THE TEACHING OF PSYCHIATRY

The resolutions of the General Medical Council with regard to professional education which came into operation in November last include those relating to the teaching of psychology during the first two years of medical study and to instruction in psychology and mental disorder and deficiency during the clinical years. Certain difficulties incidental to such instruction, especially in relation to practical clinical experience of the psychoneuroses, are recognized. There are some teachers who declare these to be so formidable during the period of undergraduate study that they are loth to attempt what others are doing with a reasonable amount of success. Somewhat belatedly comes a report of the proceedings of the fourth conference on psychiatric education (undergraduate instruction), held at Baltimore in April, 1936.⁵ It is a full report and contains much that may be of value in this connexion, much of practical value as resulting from actual experience. The details of the four-year course at the Johns Hopkins University School of Medicine are set out and discussed, and those at a large number of other schools are brought under review, with special reference to the simplification of the teaching. The experience of these American schools throws much light on the difficulties encountered and upon several methods of overcoming them. Advantage should be taken of this by schools and teachers in Great Britain and the Dominions. In the matter of nomenclature, also, the report contains

¹ *J. Lab. clin. Med.*, 1938, **23**, 938.

² *Lancet*, 1928, **1**, 601.

³ *New Orleans med. surg. J.*, 1938, **91**, 163.

⁴ *Proceedings of the Fourth Conference on Psychiatric Education. Undergraduate Instruction. Baltimore, Maryland, April 8-10, 1936.* New York: The National Committee for Mental Hygiene. 1938.

⁵ *J. Amer. med. Ass.*, 1937, **108**, 1336.

some suggestions worthy of note: perhaps the terms "psychobiology" and "psychopathology" as used by Professor Ziegler are the most striking.

NASAL TEETH

Under pathological conditions teeth may grow in unexpected and inconvenient places. In 1797 the poet Goethe appears to have been the first to record the presence of heterotopic teeth in the nose, and 135 years later 100 cases were reported in the literature (A. Kramer, 1932). While there is no satisfactory explanation for their origin, hereditary influences seem to play a part in their production, and it has been calculated that the incidence of nasal teeth in people with supernumerary teeth as compared with their incidence in those possessing none is at least 100:1. The majority of nasal teeth are maxillary first incisors, and it is unusual to find more than one. Among the symptoms to which they give rise are unilateral obstruction to breathing, chronic and often foul nasal discharge, localized ulceration and crusting, and presumably, by reflex irritation, asthmatic attacks, laryngospasm, and epileptiform seizures. The diagnosis, usually simple, may be missed altogether when the tooth is almost completely embedded in the nasal mucous membrane and is situated on the nasal floor near the vestibule. Its slight mobility when tested with a probe differentiates it from immovable exostoses and odontomes and from freely movable foreign bodies and bony sequestra. Diagnosis is made certain by an x-ray, and treatment is always surgical removal, which is invariably followed by complete cessation of symptoms. These puzzling and troublesome abnormalities are carefully discussed in the December, 1938, number of the *Archives of Otolaryngology* by William J. Hirschler of Philadelphia, who adds a concise bibliography and reports an additional case.

SWEDEN'S PLAN FOR A STATE INSTITUTE OF NATIONAL HEALTH

In 1936 the Swedish Government instructed certain authorities on different aspects of hygiene to study and report on the possibilities of creating a truly representative State Institute of National Health. This step reflected the growth of the conviction, on the part of all concerned with the health of the nation, that a grouping and, to a certain extent, a re-grouping of the health activities of the country in a co-ordinated and comprehensive scheme were necessary. It may at first sight seem paradoxical that Sweden, ahead of most civilized countries in social welfare and public health, should find it necessary to set her house still further in order. The plan recommended by the authorities consulted has now been published in the form of a 78-page report supplemented by architects' drawings. It is proposed that the three main activities of the new Institute shall concern (1) general hygiene, (2) occupational hygiene, and (3) dietetics and food control. In each of these three main spheres the Institute will

conduct investigations and will serve as an adviser both to the authorities and to the general public. It must also give instruction in social welfare and medicine to doctors, nurses, and health inspectors, and must also organize health propaganda. A most important activity will be the health aspects of housing. Maternity and child welfare, the care of the tuberculous, medical statistics, and medical and social legislation will also be the concern of the Institute. It will further deal with the injuries and ailments resulting from faulty conditions of employment. The working conditions of young people and women, working hours, and the public health aspects of rationalization in industry will also be dealt with by the Institute. The control of the manufacture and sale of foodstuffs will be supplemented by certain educational activities with regard to the composition of household dietaries. All these and many other activities are to be conducted in one and the same block of buildings which will house the administrative staff, library, and museum. The architect's plans provide for some 170 rooms. It is calculated that the buildings will cost Kr. 1,800,000, and the furnishing about Kr. 400,000. The annual cost of salaries will be Kr. 240,000, and other expenses Kr. 110,000. It is not expected that the buildings will be completed at the earliest before some time in 1940.

NATIONAL NUTRITION CONFERENCE

The Council of the British Medical Association decided at its meeting on January 18 to call a national conference on nutrition in its wider aspects—that is, in relation to national, including agricultural, policy. The conference will last three days, the dates provisionally chosen being April 27, 28, and 29. The conference will be representative not only of medicine but of agricultural producers, home and oversea, as well as of industry and education. A large variety of interested bodies are being invited to send delegates. The conference will take as its starting-point the recognized food needs of the individual if health is to be maintained. It will go on to ask such questions as: How far are these needs satisfied in this country at the present time? What increases are required in the production of particular foodstuffs, either at home or in the Empire, to fill the gap? How can the necessary increases in consumption be best secured: through a system of family allowances, education, including propaganda, or otherwise? On April 28 a public meeting will be held at which the subjects dealt with at the conference will be discussed. The Association's active interest in nutrition goes back to 1933, when a special committee on the subject was appointed, under the chairmanship of Sir Kaye Le Fleming.

The King, accompanied by the Queen, will open the new Westminster Hospital on Thursday, April 20.

The commemoration of the fiftieth anniversary of the foundation of the Pasteur Institute of Paris has been postponed until March 15, when it will be presided over by the President of the French Republic.