

Reports of Societies

THE SYNDROME OF CHRONIC TOXIC CHOLECYSTITIS

At the meeting of the Medical Society of London on February 8th, with the president, Mr. HERBERT TILLEY, in the chair, a discussion took place on "The syndrome of chronic toxic cholecystitis."

Mr. W. HAROLD DODD, in opening, described three types of case: (1) with a life-long history of bilious attacks, gradually becoming worse, until the patient was unable to carry on; (2) with ill-health dating from pregnancy; (3) with ill-health dating from a severe pyrexial illness, such as pneumonia, diphtheria, influenza, malaria, typhoid, or rheumatic fever. A diseased gall-bladder was a focus for continual auto-intoxication. It strained the defensive part of the endocrine system, especially the thyroid, and might even produce goitre. It also caused a disorderly action of the biliary and digestive systems. Removal of the focus abolished the auto-intoxication, permitted the intake of an adequate diet, and gradually restored the endocrine balance and general health.

Mr. Dodd divided the syndrome into six sections, and said that, once recognized, together with localizing physical signs, confident diagnosis could be made. (1) *Nervous*. The patients were nervous and apprehensive, depressed to a painful degree, with neurasthenia a prominent feature. Irritability of temper was usual; a placid, contented wife would change into a "continual nagger." Sensations of dizziness and giddiness occurred, and occasionally after a meal a semi-fainting attack. (2) *Respiratory*. Breathlessness was often a prominent symptom, not only after slight exertion, but after taking food, and it wakened some patients at night. Patients frequently described sensations of suffocation and choking in the throat. Several cases of asthma had been relieved by the removal of a diseased gall-bladder. (3) *Cardiac*. Palpitation was a common symptom, possibly accompanied by pain, which he had heard referred to as "rheumatism around the heart." When the pain was at the left costal margin, stomach lesions were naturally thought of and treated; it was not easy to associate the right-sided gall-bladder with a left-sided pain. The painful area of the chest was supplied by certain of the thoracic nerves from which segments the splanchnics on both sides took origin, so that this might be the connexion with the gall-bladder on the left side. (4) *Alimentary*. This section of the syndrome was usually marked, and assisted in localizing the focus of the toxæmia to the gall-bladder. The appetite was capricious; there was an indisposition towards certain foods. Often complaint was made of a dry mouth with a nasty taste. Immediately or within half an hour after taking food discomfort grading to severe pain occurred in the epigastrium, at first only after the chief meal of the day, but later after every meal. Flatulence was distressing in all stages of the disease. At times pain occurred one to three hours after food, and might awaken the patients at night. This suggested a not uncommon accompaniment—a duodenal ulcer. In almost all cases of cholecystitis constipation was found. (5) *Micturition*. Symptoms of scalding, burning, and smarting were frequent, relief being usually experienced after operation on the gall-bladder in all types of patients. (6) *Locomotor*. Rheumatism and neuritis were a constant complaint. This might only be experienced in the right shoulder and back of the neck, but usually, varying in time and degree, it occurred in all areas of the body. Backache was a very prominent complaint, and might be quite severe.

Turning to the physical signs, Mr. Dodd said that the appearance was usually one of tiredness and anxiety. The

skin was sallow; it was rare to find a clear complexion. The trunk should be examined for hyperæsthesia, which helped to localize the site of the toxic focus. This was usually revealed over the right half of the abdomen, occasionally only in the right iliac fossa. Hyperæsthesia had been present in 75 per cent. of his patients. Palpation of the abdomen usually showed tension and tenderness in the right rectus muscle, tenderness in the right iliac fossa, to the right of the umbilicus, and in the gall-bladder area at the right costal margin. Frequently a normal cholecystogram was returned, and yet operation showed established disease in the gall-bladder. If the syndrome and physical signs were definite he advised operation. The barium meal showed a change in the tone or emptying rate of the stomach, irregular filling and emptying of an irritable or dilated duodenum, and occasionally a tender pathological appendix. Having established the diagnosis, operation was confidently advised. Men improved more quickly than women, perhaps because women too often prematurely resumed their family duties. He also discussed the appearances at operation, which confirmed the diagnosis of chronic cholecystitis. The gall-bladder was pearly coloured, in part or whole. It was surrounded by adhesions of varying amounts, from an extension of the cholecysto-duodenal fold to its complete submergence in attachments to the duodenum. On the convex upper surface of the liver was often a patch of pinkish-grey hepatitis, which was continuous with the gall-bladder attachment. Occasionally stones were felt in the gall-bladder, but usually inspection was sufficient. If the symptoms were present, he regarded as pathological a gall-bladder which would not empty on straightening out its duct and pressing. His youngest patient, aged 16, had this condition, and, on opening, he found a small stone. With the "boilable cold light," the gall-bladder and bile ducts could be transilluminated. This avoided handling the biliary ducts, and so lessened operation shock. The duodenum was often surprisingly dilated, and the appendix usually twisted and kinked by adhesion. In conclusion, Mr. Dodd stressed the marked restoration to health which followed operation.

Dr. ARTHUR DAVIES, who had examined the sections in Mr. Dodd's cases, said that practically all showed definite histological signs of chronic cholecystitis. He had tried to determine the nature of the spread of the infection: this was difficult, but his impression was that in the majority of cases it had been by the blood stream. In a large proportion of the cases well-marked sinuses were visible. In a few cases he could find no evidence of pathological change, so that there must be some gall-bladders in which there was a change of function without any change of structure.

DISCUSSION

Dr. C. H. MILLER said there were a great many disorders seen by the physician found to be connected with the gall-bladder. These included urticaria, asthma, migraine, and particularly the dyspepsia known as gall-bladder dyspepsia. He mentioned the relation between pain produced in disease of the gall-bladder and that produced by heart disease. There was certainly a difficulty in separating patients who came with attacks of definite angina pectoris from those who had definite attacks of gall-bladder colic. He had collected a number of cases in which definite cardiac pain had been relieved by removal of the gall-bladder. There did not seem to be any symptom of cardiac pain which could not be simulated by disease of the gall-bladder, whether in severity, localization, shock, or sense of impending death. He mentioned the high incidence of atheroma in gall-bladder patients. One of the effects of chronic gall-bladder disease was to produce early and severe arterial degeneration, and it was possible that the symptoms

arising from the gall-bladder might in the "middle-aged" heart produce cardiac symptoms of a severe kind, which might be relieved by cholecystectomy.

Dr. G. VILVANDRÉ said that with careful technique about 70 per cent. of cases of gall-stones could be shown by radiology. A pathological gall-bladder showed without question on a series of x -ray films, and he held that a gall-bladder visible radiologically was a pathological gall-bladder. Negative evidence from a radiological point of view was worth nothing at all.

Mr. ZACHARY COPE said that Mr. Dodd had given a jigsaw puzzle of symptoms which could be pieced into several pictures. Some of those present could interpret the symptoms he had mentioned into a picture of very different outline. If Mr. Dodd was claiming that all these symptoms were present in a case of chronic cholecystitis, then no one suffered from that condition, and, on the other hand, if only one or other of them need be present, then everyone was suffering from it. The multiplicity of symptoms mentioned in the paper was so great that it left him in ignorance as to the essential syndrome. It was difficult to associate the syndrome with cases in which there was really serious and demonstrable organic disease of the gall-bladder. The more diseased the viscus, the less frequently were these symptoms found. In many of the cases with the changes mentioned that evening the liver was at fault.

Mr. A. J. WALTON said that it was necessary to be most careful about minor degrees of cholecystitis. He had had the same feeling as Mr. Cope in listening to Mr. Dodd's paper. In the past, for much the same large group of conditions, the removal of the ovary or the removal of the appendix had at various times been advocated; now it was the turn of the gall-bladder. Speaking from memory, he thought that he had had roughly 500 cases of cholecystitis out of 2,500 operative abdominal lesions—that is to say, about 20 per cent.—and these were among selected patients suffering from disease of the upper abdomen. He would require very strong evidence before he accepted anything like the figure of 82 per cent. suggested by Mr. Dodd, but if the syndrome Mr. Dodd had described was taken as the criterion, then 82 per cent. was not too high, but probably too low. It was being more and more recognized that disease of the gall-bladder was associated with disorder in other parts of the body, but he had seen many patients who had had the gall-bladder removed and were not one whit the better. Such cases as Mr. Dodd had referred to must be watched; not until they had been followed up for at least ten years could it be said that they had been cured by cholecystectomy. He believed that many of these cases were forms of hepatitis with which at present they were not quite conversant. Many of the minor degrees of inflammation were curable by medical means. The frank "strawberry" gall-bladder case he believed to be curable only by surgical methods.

Dr. W. LANGDON BROWN said that he was very much in agreement with the criticisms made by Mr. Cope and Mr. Walton. How many of the symptoms which Mr. Dodd had described were to be taken as the irreducible minimum to justify a diagnosis of cholecystitis? Even in the presence of cholecystitis many patients were amenable to medical treatment. He agreed that the association between cardiac symptoms and gall-bladder symptoms was very important.

Dr. A. H. DOUTHWAITE said that he had seen many patients suffering from the symptoms mentioned by Mr. Dodd and yet not having cholecystitis. There was a very large group in which the symptoms were referable to a visceroptotic condition, which yielded to exercises and suitable diet; here the element of fat in the food was important. It amazed him that there was no reference in the paper to the treatment of these people without

operation. If Mr. Dodd would hand over 50 per cent. of his cases to him (apart from those showing definite radiological changes) he would guarantee to cure more of them by medical methods than Mr. Dodd by surgical!

Dr. J. R. WYLIE described some work on the preliminary stages of duodenal ulcer before deformity, in which there were symptoms not unlike those described by Mr. Dodd. He had seen one such case develop into typical ulcer in the course of six months and go to operation. These cases occurred in young people as well as in older ones.

Dr. CHARLES NEWMAN suggested that there was one more picture into which the jigsaw puzzle of symptoms might be pieced—namely, what was called by some German observers "the gall-bladder dyskinesias." Four different syndromes had been sorted out, two of which were very common and corresponded closely with the syndromes of many gall-bladder conditions. The symptoms in gall-bladder disease were largely due to dyskinesia, functional alteration taking place without structural alteration, or at any rate without inflammatory signs. The diagnosis of these cases was arrived at by duodenal intubation and the test of pituitrin and olive oil. Two common forms were the hypertonic distended gall-bladder and the hypotonic distended type. Many of Mr. Dodd's cases, he thought, would be found in these two categories. Although operative removal did relieve some of them, a good many got worse following removal of the gall-bladder, because, after all, the gall-bladder did definitely tend to ameliorate these troubles.

Mr. HAROLD DODD, in reply, said that he fully realized that the acid test of any condition like this was the "follow-up," and it would take five or ten years to consolidate this work. But he could say definitely that no patient was worse, and that many were unquestionably better. He had been asked how large a part of the syndrome he regarded as the minimum. Of course, apart from the syndrome, he insisted that the physical signs must be definite in every case, otherwise, no matter how full the syndrome, he did not advise surgery. But, generally, from four to six sections of the syndrome were fulfilled. One speaker had mentioned the usefulness of diets containing fats; but the mischief was that so many of these patients could take nothing but boiled fish, bread-and-butter, and tea. He promised at a later date to bring before the Society a further report on the cases.

DIAGNOSIS AND TREATMENT OF LUNG ABSCESS

At a joint meeting of the Sections of Medicine and Surgery of the Royal Society of Medicine on February 3rd, with Dr. H. MORLEY FLETCHER in the chair, a discussion on abscess of the lung was opened by Dr. R. A. YOUNG.

Lung abscesses, Dr. Young said, were more common than was formerly supposed. They were difficult to classify because their causation was frequently complex. The following conditions which gave rise to abscess of the lung were mentioned: foreign body in the bronchus; aspiration of infective material, especially during operations on the nose and throat; septic foci in the nasopharynx; embolism in septicaemia, ulcerative endocarditis, otitis media, and phlebitis; bronchiectasis, as a result of infection extending into the lung tissue; degeneration of new growths (responsible for 10 per cent. of lung abscesses); perforating wounds and rib injuries; and gangrene of the lung. In embolism the foci might be multiple. A fair proportion of aspiration abscesses were found in the upper lobes; other abscesses were primarily parenchymatous. Among the conditions simulating lung abscess was interlobar empyema, but the absence of elastic fibres in the pus from an empyema was a helpful differential point. In bronchiectasis the use of lipiodol

made the diagnosis clear. New growth could usually be distinguished either by bronchoscopy or by lipiodol. Abscess should be suspected when there was delayed resolution in pneumonia with persistent expectoration of pus; when acute infective symptoms followed infarction of the lung; and when marked pulmonary signs arose in ulcerative endocarditis or in septicaemia of any origin. A marked leucocytosis was always present. When the abscess was acute the patient was as a rule seriously ill, with fever and rigors. With the more chronic type there were: rising and persistent fever, expectoration of pus, and a paroxysmal cough often brought on by change of position. An unpleasant taste in the mouth, or the appreciation of obnoxious gases by the patient, often preceded the rupture of a closed abscess into a bronchus. Copious expectoration of pus was followed by signs of a cavity: the pus was foul, tended to separate into three layers, and might contain elastic fibres and necrotic lung tissue. Pain might be severe with an acute abscess, but slight with a chronic one. With a deep-seated central abscess there might be few physical signs save weak breath sounds and occasional rales. If the coughing up of pus was followed by the signs of a cavity the diagnosis could be made immediately. Multiple abscesses might simulate broncho-pneumonia. Clubbing of the fingers usually appeared rapidly, within six to eight weeks. Radiography often established the diagnosis. After rupture of an abscess into a bronchus a fluid level could be seen in the abscess cavity, to show which both antero-posterior and dead-lateral radiographs in the upright position were necessary. The use of lipiodol was sometimes condemned on the ground that it carried infective material into the lower bronchi; actually obstruction of the bronchus prevented it from entering the abscess cavity. Leucocytosis usually persisted after rupture of an abscess, but the count was lower. Exploratory puncture was decidedly dangerous when abscess was suspected, since it might lead to widespread infection of the pleura or to precipitate rupture of the abscess. Between 10 and 30 per cent. of patients with acute abscess of the lung recovered after spontaneous rupture. In most cases medical treatment should be tried first. The patient was nursed as for acute pneumonia, and after rupture drainage, gradual to begin with, was promoted by posture, the patient hanging over the bed and coughing at least twice daily. Inhalations and expectorants were useful later, and intratracheal injections might be considered. Arsenical preparations such as salvarsan were sometimes helpful. If after a few weeks the patient showed no improvement on medical treatment, surgical intervention became necessary. Early operation was the best treatment for localized gangrene of the lung, and operation was essential for an abscess rupturing into the pleural cavity. Bronchoscopy was indicated for the removal of an inhaled foreign body. Thoracotomy and drainage of an abscess was best carried out in a two-stage operation, unless adequate pleural adhesions were present to prevent the escape of pus into the pleural cavity. Dr. Young said that he did not consider artificial pneumothorax was advisable, as adhesions, preventing complete collapse, were nearly always present. Thoracoplasty should rarely be necessary if the diagnosis was made early. Phrenic evulsion was useful in three conditions: for incomplete drainage of a spontaneously evacuated abscess; for secondary bronchiectasis (as a result of cicatrization); and occasionally to limit the extent of a thoracoplasty. Lobectomy was rarely necessary. Some of the complications of abscess of the lung were empyema, bronchial fistula, lattice lung, and cerebral abscess.

Mr. J. B. HUNTER opened the discussion from the surgical aspect. He intended, he said, to confine himself to the single abscess which was not associated with dilata-

tion of the bronchi. Abscess occurred more commonly in men than women, more often on the right side than the left, and in the upper than the lower or middle lobes. An abscess might be acute, subacute, or chronic, but from the surgeon's point of view it was important to know whether it was closed or open. If it was closed, operative treatment might be urgently needed. If it was open, there was often copious expectoration of foul pus. On radiography the abscess showed as an opaque, circular shadow with a fuzzy outline, or as a triangular shadow with the apex towards the mediastinum. If it was open a fluid level might be seen, and occasionally this was visible when it was closed, owing to the presence of gas-forming organisms. Lipiodol usually failed to enter the abscess cavity, because the opening often faced downwards. It was useful, however, in showing blockage of the bronchus. Needling was dangerous, and should never be performed; it might lead to the development of pyothorax. A considerable number of patients, particularly if the abscess was in the upper lobe, recovered without surgical intervention. This was fortunate, as upper-lobe abscesses were difficult to treat successfully by surgery. Where postural drainage failed, other measures must be employed. Artificial pneumothorax would not succeed if adhesions were present, as they frequently were when the abscess was peripheral. Pyopneumothorax would often clear up with repeated aspiration, followed by drainage. For closed abscess thoracotomy and drainage were necessary. If adhesions were present it was possible to perform the operation in one stage. Sufficient rib resection should be performed to allow adequate collapse, and enough lung tissue should be removed for thorough drainage. He preferred to use a large tube packed round with gauze, the gauze being removed at the end of three days. If it was found at operation that localization had been inaccurate, a finger introduced into the pleural cavity often found a patch of adhesions over the true site, through which the operation could then be performed in one stage. Manipulation of the lung during operation was dangerous; the abscess might rupture into a bronchus, drowning the patient. After drainage the cough usually diminished, and the temperature and pulse rate subsided; clubbing of the fingers gradually disappeared. The development of bronchial fistula or of bronchiectasis was due to inadequate collapse at the time of operation. Cerebral abscess might develop after operation, and was usually fatal. Many observers had attempted to produce aspiration abscesses experimentally in animals without success. Embolism from the infected area following nasal and oral operations might give rise to lung abscess, especially as the operation area was subjected to violent straining immediately after operation, owing to the vomiting induced by volatile anaesthetics.

Dr. JAMES MAXWELL said that in diagnosis chief stress should be laid on the history. Physical signs and radiography were helpful in localizing the abscess. Perhaps the commonest predisposing cause was pneumonia; the aspiration of septic material was the next most frequent cause. A certain number of abscesses developed without any apparent reason. Cough, pain in the chest, and toxæmia were often the three earliest signs. Rigors and sweats were common, with increased pulse rate and rise of temperature and respiration rates, though there might be no dyspnoea. Blood was seldom present in the sputum in the early stages, but bright blood found in the later stages was a sign of healthy granulation in the abscess cavity. Many cases were complicated by empyema or pleural effusion before they came under observation. Bronchoscopy was rarely helpful save in cases associated with new growth, bronchiectasis, or foreign body. The differential diagnosis was from localized empyema, bronchiectasis, and new growth. Abscesses tended to

grow and rupture spontaneously ; early treatment should therefore consist of rest, postural treatment, and such auxiliary measures as diathermy, poultices, and inhalants. He had been favourably impressed by the results of 10 per cent. oil of gomenol given intratracheally by means of a nasal catheter. The bronchoscope might be used to establish drainage. Organic arsenic compounds were beneficial, especially in the treatment of spirilla infections. Emetine had been given empirically. If there was no improvement after eight or ten weeks operation should be considered. Artificial pneumothorax was not indicated except with deep lung abscess draining into a bronchus.

Dr. PETER KERLEY said that the *x*-ray appearance depended on the method of infection, its nature, and the local pulmonary involvement. With pulmonary embolism the wedge-shaped infarct described by the pathologist was seldom seen in life, usually being fatal. A small embolus gave rise to a round, sharply defined opacity, showing no fluid level. Infection spread from the periphery, and soon a hazy opacity in the lung tissue formed round the shadow. Weeks might elapse before a fluid level could be seen, but it appeared earlier if gas-forming organisms were present. Multiple abscesses from embolism had a tendency to form a circumscribed area. An aspiration abscess, in contradistinction to an embolic abscess, threw a vague shadow at first, which later became well defined as suppuration spread into the congested area. Abscess might be simulated by interlobar empyema, broncho-pneumonia, syphilis, or new growth.

Mr. V. E. NEGUS spoke of the value of the bronchoscope in the diagnosis and treatment of lung abscess. With a parenchymatous abscess not communicating with a bronchus, bronchoscopy would show clear, healthy bronchi. Where an abscess communicated with a bronchus plugged with pus, the obstruction would be visible, and the bronchoscope could be used to remove it. By repeated bronchoscopy pus might be aspirated through a flexible tube when coughing and postural drainage were ineffective. This method was successful, and was attended by no danger and little comfort to the patient.

Dr. L. S. T. BURRELL said that there were four ways of dealing with lung abscess: by expectant and postural treatment, by bronchoscopy, by surgical drainage, and by artificial pneumothorax. With the first method some patients recovered and some died ; bronchoscopy did little beyond making the bronchi patent ; after surgical treatment a large number of patients died, or had a recurrence of the condition ; artificial pneumothorax was dangerous. The patient was in the position of a man in a burning house. If he remained where he was the fireman might put it out ; if he ran down the stairs he would be smothered ; and if he jumped from the window he would be killed. He thought that treatment by pneumothorax should not be completely discarded, especially for deep abscesses seen in the early stages.

Mr. TUDOR EDWARDS said that cases with continuous expectoration of pus were often confused with bronchiectasis, and went on until bronchiectasis developed. Effusions were of two types. Where a slowly forming and localized empyema formed the prognosis was usually good. Where the pleural cavity was large and free from adhesions a severe infection was likely, which might terminate fatally. A drainage operation should always be carried out in two stages, since there was a risk that adhesions already present over the abscess might tear if the patient coughed during the one-stage operation. Removal of lung tissue by diathermization prevented the subsequent dislodgement of emboli by sealing off the vessels. Chronic bronchial fistulae generally complicated those cases in which operation had been unduly delayed. Pneumolysis offered a promising line of treatment. Lobectomy was of value in the treatment of lattice lung.

In replying, Dr. YOUNG said that he was still unconvinced of the efficacy of artificial pneumothorax. He thought Dr. Burrell's simile of the man in a burning house was incomplete ; he might still be rescued by the bronchoscopist with his hose or by the surgeon with his axe. He agreed that pneumolysis was likely to prove a valuable operation.

DEAF-MUTISM

The pathology of deaf-mutism was the subject of a communication by Mr. J. S. FRASER to the Section of Otolaryngology of the Royal Society of Medicine on February 5th.

Mr. Fraser had obtained from Professor F. R. Nager of Zürich some microscopical slides illustrating the changes in endemic or cretinic deafness so frequently seen in Switzerland. In that country the number of deaf-mutes is said to be 24 in 10,000 of the population, whereas in Europe as a whole it is 8 in 10,000. The microscopical examination of the ear in these cases showed myxomatous thickening of the submucous tissues of the middle ear, often filling up the window niches. In one of Professor Nager's cases the malleus and incus were deformed, and the long process of the incus and the head and posterior limb of the stapes were adherent to the facial canal. In another, the cochlear duct was dilated in the lower and collapsed in the upper part. According to Professor Nager, who believes that the condition arises about the sixth month of foetal life, tuning-fork tests show that many cretinic deaf-mutes are really only hard of hearing, but this degree of deafness, in conjunction with feeble mental development, results in deaf-mutism. The endemic form, said Mr. Fraser, was only one of the groups of constitutional or congenital deaf-mutism, the other being the sporadic form, well known in this country. In this there were four subgroups—namely, one in which there was aplasia of the whole labyrinth (a very rare condition), another in which there was malformation of the bony and membranous labyrinths, a third with malformation affecting both the cochlear and vestibular apparatus, and a fourth with sacculo-cochlear malformation, to which type about 70 per cent. of cases of congenital or developmental deaf-mutism belong. Turning to inflammatory or acquired deaf-mutism, Mr. Fraser said that this might be due to trauma, to congenital syphilis, to labyrinthitis following purulent meningitis, or to labyrinthitis following middle-ear suppuration. With regard to the last, he pointed out that middle-ear lesions alone did not produce such severe deafness as to give rise to deaf-mutism, but if the otitis media invaded the labyrinth through the windows on both sides bilateral labyrinthitis was set up, and, if the child was very young, deaf-mutism resulted. There were two views about the nature of the pathological changes seen in congenital syphilitic deaf-mutism. One view was that congenital syphilitic deafness was due to syphilitic meningitis and secondary neuro-labyrinthitis ; the other, that the condition was secondary to otitis media which, in syphilitic children, did not clear up but broke through the windows or invaded the bony capsule of the labyrinth and so reached the hollow spaces of the inner ear.

Dr. J. KERR LOVE, who has been engaged in an observation of deaf-mutes in Scotland for forty years, made some remarks on the subject of prevention. He said that between 1891 and 1931 the population of Scotland had increased by one-fifth, but the number of children attending schools for the deaf had remained practically stationary (about 530). In 1891, however, half these children had shown acquired deafness and half congenital, whereas of the present children only 28 per cent. showed the acquired form, and 72 per cent. the congenital. He considered that the diminution in acquired deaf-mutism was chiefly due to medical inspection and treatment in

schools. The tonsils and adenoids operation was one of the chief means of lessening the amount of acquired deafness, and Dr. Love pointed out that this operation was now so general that presently at least a quarter of the population would be without tonsils and post-nasal adenoids. Syphilis was still an important cause of deaf-mutism, though proportionately less now than formerly. The treatment of syphilis at present was largely a failure because there was no compulsory notification and no power to compel completion of treatment. Nothing was being done to reduce congenital cases except by the deaf themselves to the extent to which they, like other members of the community, practised birth control. A reduction from 5.5 in 1891 to 4 in 1931 had taken place in the average number of children in families in which congenital deaf-mutes were born.

Mr. A. D. SHARP quoted some figures from the records of a deaf school, which gave 60 per cent. of the cases as congenital and 40 per cent. as acquired, but he said that there was a difficulty in assessing acquired cases owing to the reluctance of parents to admit that their offspring had been born deaf. Of the congenital cases, 34 per cent. had no hearing whatever, and 66 per cent. some remnants of hearing. The age at which the acquired condition had appeared varied from 12 months to 3 years. The causes cited were pneumonia, laryngitis, otitis media, measles, scarlet fever, whooping-cough, teething, diphtheria, and traumatism. He had not seen a case of deaf-mutism in which the father and mother had been nearly related. On this point Dr. Kerr Love said that married cousins, if they produced deaf-mutes, did so because there was deaf-mutism already in the family. There was no objection to the marriage of cousins in itself, but if any defect such as deaf-mutism were present in the family it was liable to be accentuated.

Mr. BRAYSHAW GILHESPY exhibited to the Section a gramophone record of the "speech" of deaf-mutes, reproducing what the child suffering from nerve deafness really heard. The single vowel sounds were fairly identifiable by the listener, the consonants much less so.

THE COMMON COLD

At the meeting of the Section of Laryngology of the Royal Society of Medicine on February 5th, a discussion took place on the common cold.

Sir THOMAS HORDER, in opening, first defined what a common cold was not. Paroxysmal rhinorrhoea was not a common cold, nor was paroxysmal sneezing, nor hay fever, nor the acute nasopharyngitis which ushered in certain of the acute specific fevers, nor, probably, was acute coryza, although here the differentiation became less clear. The common cold was an acute specific catarrh involving the upper respiratory tract and, in the majority of cases, the nose and pharynx; it ran a benign course of three to ten days, with pyrexia and certain constitutional symptoms. An attack protected the patient against another attack for a short time only. It was probable that there was a specific infection by a filterable virus, associated with secondary infection by catarrhal organisms readily isolated. The term "feverish cold," or "influenza cold," though condemned by some writers, was justified by the inadequacy of clinical differentia, and still more by the incompleteness of bacteriological knowledge. As to the site of infection, although the condition was a simple rhinitis in the majority of cases, at any rate at first, yet the pharynx was often infected also, and the larynx and trachea not seldom. Some degree of sinusitis and Eustachian catarrh, as well as some degree of conjunctivitis, was part of the type case, thus amply justifying the term "cold in the head." In some persons the nose almost or altogether escaped, the infection spending

itself on the pharynx, larynx, or trachea. With some patients the disease was trivial, with others devastating—not only because of the severity of the local discomforts, but also because of the depth of the toxæmia. He was not sure that there were any facts to support the view that the acute rhinitis expressed itself in terms of a chronic catarrh. Of chronic catarrhs there were plenty, but he thought they differed in origin from the catarrh of the common cold. He also doubted some of the predisposing causes often alleged, such as heredity, rheumatism, and gout. Increasing years brought a compensating immunity. There was a seasonal incidence, January, September, and November being bad months for this as for catarrhal infections in general. As to exciting causes, while he could not admit mere cold or mere heat, rapid changes in temperature seemed to be an adjuvant to the main factor, which was some *materies morbi* of a specific kind, probably of the nature of a filterable virus. Certain general methods whereby the individual could lower his susceptibility to infection had been advocated, such as methods of dealing with the atmosphere breathed, of cleaning and disinfecting the nasopharynx, the isolation of the infected person, and preventive inoculation. It was generally assumed that hardness tended to resistance and softness to susceptibility, but he was not sure that this stood the test of strict inquiry. It was a common experience that a person after reaching some exceptional degree of fitness on a holiday went down with a common cold immediately on returning to work. He was not convinced that the common cold shared with tuberculosis the character of being an infection of low resistance. A tendency to infection must not be confused with the ability to stand the infection. Fitness did not necessarily protect, though with the secondary infections the weakly and tired patient fared worse than the fit. It had been suggested that some systematic spraying of the atmosphere in institutions by an appropriate disinfectant might diminish the case-incidence of catarrhal infections. A very suggestive set of figures was published quite recently by Dr. C. J. Wells concerning the use of formalin vapour, which he employed in a boarding school of 140 boys; the spray used in this experiment was a 10 per cent. solution of formalin.¹ It was generally agreed that there should be correction of any defects of the airway, drainage of areas of focal sepsis, and treatment of chronic catarrh; but here again not all acute catarrhs which arose in persons suffering from chronic catarrh were examples of the common cold—many of them were entirely endogenous in origin. Did any form of treatment of the mucosa of the nose and throat lower the susceptibility to infection? If so, what method was most helpful? Should it be simple cleansing, as by an isotonic salt solution, and should it be by spray or douche, or was an antiseptic of greater value than the salt solution, and, if so, what antiseptic? As to isolation of the patient, the public was now educated to regard this as desirable, if not always practicable. The trouble was that the mild cases, which might be as important from the point of view of contagion as the severe, went free. With regard to preventive treatment along the lines of antigen therapy, the infecting agent had not yet been isolated, and therefore only secondary infections could be dealt with. Some patients who had been inoculated were satisfied, others disappointed, and a few declared that vaccines rendered them more liable to infection. Curative treatment should always begin at the earliest moment. He regarded it as an established therapeutic fact that it was possible to abort a common cold, and not by remedies either specific or magical; many of them were old wives' cures, but not to be despised. He believed in the hot bath, copious hot drinks, a smart purge, and a warm bed. Whether later

¹ *British Medical Journal*, January 9th, 1932, p. 60.

measures took the form of the giving of cinnamon, ammoniated quinine, or camphor, did not matter. It would not be without precedent if a potent remedy were found for this complaint on chemotherapeutic lines. Whatever the method, chemotherapeutic or other, the profession would welcome, as the public would, the defeat of the common cold as being the defeat of a common enemy.

Sir STCLAIR THOMSON said that he was glad that the treatment was not standardized, for everyone got his own cold in his own way, varying according to his age, temperament, habits, constitution, and local and general predisposition. The first principles were early diagnosis and treatment. If every individual at the first threat of the common cold went to bed for from thirty-six hours to three days in an isolated and well-ventilated room, he would not only cease to be a focus of infection, but would curtail his attack and escape most, if not all, complications. Warmth applied to the head was important. The use of suction was of doubtful value. Drugs in the early stage should only be used to relieve symptoms; the comfort of the salicylates, aspirin, phenacetin, and so forth, would be within everyone's knowledge. When the mucous discharge became muco-purulent, it generally meant the invasion of the sinuses. If the purulent invasion of one or both maxillary sinuses was diagnosed, simple saline lavage should be employed. If the common cold invaded the ear, incision of the drum might be called for. Briefly epitomized, however, local treatment should be a masterly inactivity, with, if required, antral lavage. The treatment of extension in the acute stage to the pharynx or larynx could only be symptomatic. Voice rest and the avoidance of tobacco helped to prevent such extension, and old-fashioned drugs like potassium iodide, ipecacuanha, antimony, and paregoric might be indicated. He had spoken of rest in bed in a well-ventilated room, but an American observer had had the courage to report that he found many patients did better with the windows closed. Here he gave some account of a recent investigation at Cornell University, which showed that among 815 freshmen, 60 per cent. had colds two or three times a year, 15 per cent. never more than once a year, and 25 per cent. four or more times a year. As between the extreme groups there was no marked difference in respect of smoking, history of operation on nose and throat, exposure to irritant dust or gas, mouth-breathing, sleeping, exercise, draughts, wearing of flannel next the skin, goloshes, daily cold bath, tendency to perspiration, chronic constipation, or family history. In fact, all the old fetishes were—in the language of the country where the investigation was made—"de-bunked." This "de-bunking" was not to be regarded as a mere iconoclastic proceeding. The overthrowing of old fetishes would direct attention to more promising lines of research. The common cold was still "three days coming, three days staying, and three days going." According to the cynical remark of a Frenchman, a cold if left to itself ran for a fortnight, but if treated it only lasted fourteen days! Possibly the common cold was one of the penalties we had to pay for the pleasures of civilization, or, it might be, one of Nature's methods, evolved by the mischiefs of civilization, to vaccinate mankind from time to time against worse evils.

Dr. JOHN FREEMAN said that the pathologist had not been able to discover enough of the pathological mechanism of the common cold to give adequate knowledge and assistance to his practising colleagues. When the mechanism of the infection was sufficiently established that would dictate the prognosis; until then the clinical classification was provisional and, from the angle of the laboratory, really insufficient for research. Undoubtedly the common cold was an infection. Bacterial infections could be proved in all colds, the causal agents being pneumococci, streptococci, Pfeiffer's bacilli, diph-

theroid bacilli, Friedländer's bacilli, micrococci of the *catarrhalis* type, staphylococci, and others. These occurred as little epidemics throughout the catarrhal season. The certainty of these infections was not lessened by the fact that the same microbes also commonly infested the normal or subnormal mouth, but in much fewer numbers. The multiplicity of origin was a suspicious circumstance to medical men brought up with a firm belief in the simple clinical entity of the common cold. The infecting bacteria were to be found scantily or not at all in the initial stages of a "running" cold. Therefore many attempts had been made to find an earlier primary infection of all common colds, and to degrade the bacteria into secondary infectors. An invisible filterable virus was the favourite conception, and Dochez had come near to the proof of this, if he had not reached it. If there was a virus which initiated the common cold, was it always present, and, if so, could the subsequent bacterial infections, to say nothing of the other sequelae, be correctly called "the cold"? If there was a virus it could not be extirpated or protected against until much more was known. Meantime, whether primary or secondary, the bacteria did most of the damage and caused the chief risk to health. The bacterial factor in colds could not be combated usefully by antiseptics without damaging the tissues, or dislodged by douching without removing the lysogens. Definite help could be given by removing surgical obstruction and by prophylactic and therapeutic use of vaccines. Many of the statistics regarding colds were vitiated by the psychic element. If a man thought that he had sat in a draught, or had got his feet wet, he was likely to get a cold, not merely on account of the indiscretion itself, but because of the apprehension he experienced, and, similarly, if he had sprayed his rooms and taken other precautions, the psychic factor told the other way.

Dr. DAN MCKENZIE believed that the key to the position from the epidemiological point of view was the carrier. By the carrier he did not mean a person with signs of suppuration. There were many people who must be carriers, but in whom there was no sign of disease in the intervals between the attacks. In them the virus was being harboured and set up the disease, the reaction of the system after a few days or weeks producing an immunity which lasted for a longer or a shorter time. Vaccines, he thought, were disappointing. Sir Leonard Hill had advocated a Spartan prophylaxis—cold air, cold baths, and so forth—but that was the wrong way of treating the carrier. As for the open window, he had known many people who, after having had a hot bath and gone to bed with an open window, had precipitated an acute cold. The hardening of the system might be quite useful for people not liable to these attacks, but not for the carrier. With regard to curative measures, he had found the use of iodine in a bad cold effective.

Dr. PATRICK WATSON-WILLIAMS said that plentiful examples of the carrier were found in families where one child seemed to start most of the family colds; in many cases the parents were a perpetual source of infection. Among the factors which tended to cause a nasal catarrh to become an established infection were various anatomical defects. It was common knowledge that the pathway of every epidemic of influenza was strewn with wreckage in the acute and chronic sinusitis and other sequelae, the influenza lighting a blaze in the cold hearth of a latent sinusitis or bronchitis which did not die out. While the ordinary acute common cold might be left to the usual measures of prevention and treatment, those who were the subjects of chronic cold, asthma, chronic bronchitis, and so forth, might be usefully examined by the laryngologist to exclude or determine the existence of any generally operative source of infection located in the upper respiratory tract. One remedy which he had found useful in

aborting a freshly acquired infection of a common cold was massive quinine hydrobromide, in doses of 12 to 20 grains, given within a relatively few hours of contracting the cold. Mr. HERBERT TILLEY referred to conditions in which a severe cold was accompanied in the head by unilateral pain. On examination in such cases the whole meatus was sometimes found to be blocked with oedematous mucous membrane. Congestion and oedema in that situation, with a drop of pus, was practically pathognomonic of suppuration. It was useful, after anaesthetizing that region, to scarify it with the point of a fine, curved scalpel. If at the same time a fine cannula could be passed in the upper frontal sinus and the sinus washed out, it would help to prevent damage by septic discharges. Mr. H. G. BEDFORD-RUSSELL mentioned the value, in acute coryza or acute sinusitis, of 10 per cent. cocaine, given as frequently as four-hourly intervals, with the idea of allaying the turgescence of the nasal mucous membrane.

Sir THOMAS HORDER, in reply, said that he had not used iodine in the early stages of a common cold. He had not had the courage to risk the patient's idiosyncrasy, and he had some idea that it might produce difficulty in regard to the sinuses. He could quite appreciate the rationale of the application of cocaine as Mr. Bedford-Russell had suggested.

THE ENTERIC FEVERS

At the annual meeting of the Devon and Exeter Medico-Chirurgical Society, held on January 21st, with Mr. NORMAN LOCK in the chair, Dr. J. R. HARPER read a paper entitled "Some aspects of typhoid."

Dr. Harper pointed out the comparative lateness in the recognition of typhoid as a clinical entity and on its long confusion with typhus. But while true recognition of the disease was wanting until the middle of the nineteenth century, the real nature of the infectivity of typhoid was not generally accepted even in the 'nineties; for, even as late as 1894, Creighton in his *History of Plagues and Epidemics* denied the infectivity of the freshly passed urine and stools. In striking contrast to this attitude, and of great interest to this particular society, were the views expressed some forty-five years earlier by Dr. William Budd of North Tawton in Devonshire, on the nature and spread of typhoid. Budd studied the disease under Louis in Paris, and later became physician to the Dreadnought Hospital, Greenwich. There he himself acquired typhoid, and, his health having suffered severely, resigned his appointment in 1839, and repaired to North Tawton to help his father in a general practice. Just at that period there was a severe outbreak of typhoid in the town and the surrounding district, and, having regard to the housing and sanitary conditions, it was not surprising that some eighty cases occurred between July and November (an account of this appears in Budd's book, *Typhoid Fever*, published in 1873). Dr. Harper then traced Budd's career to Bristol, where he was physician to the Royal Infirmary, and lecturer on medicine in the medical school, and showed how, profiting by his close research, first in Paris and then in the North Tawton epidemic, he had become throughout the West of England the accepted apostle of the theory of the infectivity of typhoid. Budd insisted, first, that typhoid was spread by infection, and secondly, that the infective agent was excreted in the faeces. He went further than this in pointing to the spread of infection by milk and by water, and emphasized the importance of not overlooking "the tainted hands of those who wait on the sick," and the danger of bedding and clothing infected by faecal discharges. Certain passages in Budd's work on typhoid showed that he had anticipated by several decades the part played by the carrier.

Dr. Harper passed on to a short review of typhoid as it was known to-day, commencing with the various theories held as to site of infection. While claims had been made for entry via the tonsils and lymphatics of the pharynx—supported by the frequency of tonsillitis in the incubation stage and the finding of bacilli locally—the intestinal portal received general acceptance. Discussing the various types assumed by this disease, he dwelt on the ambulatory form, so productive of epidemics. Although by no means of common occurrence, fifty-seven cases had been discovered in a French garrison in 1909 in a general "combing out" of suspects during an epidemic which had resulted in 142 admissions to hospital. Dr. Harper then illustrated the clinical aspects of the disease from personal observations made in the medical wards of a military hospital in France during the great war. Various types had come to view owing to the fact that the uninoculated as well as with those who had had injections were admitted. The former were mainly civilians employed on, or allied with, Government service, but of the latter some had received "T.V." only (namely, those observed in the earlier period of the war), whilst the majority were protected against both typhoid and paratyphoid. Charts were shown of many hybrid forms where anti-typhoid inoculation had tended to mask the characteristic features. Dr. Harper paid tribute to the bacteriologists, without whose skilled investigations it would have been impossible to place these infections in their true cadre. Tachycardia leading to a long convalescence had occurred in about 5 per cent. of the earlier war cases, and seemed to have been more prevalent in the paratyphoid B group. Remarking that, in the uninoculated, splenic enlargement and tenderness was positive in 70 to 80 per cent., Dr. Harper stated that in the inoculated the spleen was not found to be enlarged in more than 28 to 30 per cent., although tenderness in the splenic area had been common.

The PRESIDENT congratulated Dr. Harper on the mass of information conveyed in the paper, and especially for having brought forward matters of local historical interest. Mr. LOCK gave his personal experiences of an attack of typhoid, and testified to the intense headache of the onset and of the extreme prostration during early convalescence. Dr. R. V. SOLLY, speaking from many years' experience, remarked upon the steady decline in the incidence of typhoid in the South-West of England, so that it was now almost a rarity. In regard to agglutination he admitted that there were great difficulties, and more so with the inoculated cases. Dr. ROBB referred to the passage of the duodenal tube as an aid to diagnosis in "carriers."

LARYNGOCELE

At the last meeting of the Section of Anatomy and Physiology of the Royal Academy of Medicine in Ireland, with the president, Dr. C. P. MARTIN, in the chair, Sir WILLIAM WHEELER showed drawings and lantern slides of a patient, aged 24, who had a swelling about the size of a hazel-nut on the right side of the posterior portion of his tongue, and a swelling under the mandible in the submaxillary region.

The tongue could not be protruded, and on any attempt to do so it deviated to the side of the tumour. The patient stated that he had had the condition all his life. His main trouble was a difficulty in making himself understood when speaking. On palpating the protrusion on the tongue the finger dipped into the tongue muscles. It was obviously not solid, nor had it the resistance which would be suspected if it contained fluid. When the swelling was invaginated into the tongue substance the protrusion in the submaxillary region became bigger, and vice versa. A needle was introduced. No fluid was withdrawn. Lipiodol was injected, and

the x-ray photograph demonstrated a sac in the tongue, which communicated with the larger sac under the jaw. The nature of the condition was not suspected. It was intended after preliminary tracheotomy to ascertain its nature by removal and mobilization of the tongue, under rectal anaesthesia. At the commencement of anaesthesia the patient suddenly ceased breathing, and could not be resuscitated. No post-mortem examination was permitted.

Sir William Wheeler offered his thanks to Professor A. F. Dixon for referring him to the literature, and for explaining by comparative anatomy the real nature of the condition. E. H. Bennett, in the *Dublin Quarterly Journal of Medical Science*, 1865, was the first to discover a human larynx in which there existed laryngeal pouches such as were found greatly developed in the higher apes. Sir William Wheeler said there was little doubt, in the case which he brought forward, that the appendix of the laryngeal ventricle on the right side had extended through the thyro-hyoid membrane in an upward direction behind the body of the hyoid bone to the floor of the glosso-epiglottic fossa. He could find no mention of extension of these extra-laryngeal pouches into the tongue in the surgical literature. They were normal in many apes, but they extended downwards to the neck over the clavicle and even into the axilla. Von Bergman, however, discussed laryngocele in connexion with swelling of the neck, and mentioned a case in which sudden distension of the sac was followed by death from suffocation. The extension of the protrusion through the thyroid membrane was normally downwards, but Quain mentioned that the end of the appendix of the ventricle sometimes passes upwards. Certain German writers had referred to the danger of sudden death. The portion between the tongue and the submaxillary protrusion and the larynx was not demonstrated by the lipiodol, as the latter did not enter the larynx, but it seemed probable that the opening into the larynx was either very minute or of a valvular nature. Sir William Wheeler had considered in the first instance the possibility of some branchial cleft anomaly, but this was discarded owing to the involvement of the tongue.

Professor A. F. DIXON said that he had suggested that this was a laryngocele because laryngocele was the only thing which formed the kind of swelling that was present. Cervical cysts also sometimes occurred near the clavicle, as well as higher up. Schweiner's book on abnormalities gave numerous descriptions of specimens of laryngocele. Many of these patients had died suddenly.

The PRESIDENT said that since the thymus gland arose from the third branchial cleft and grew backwards, he wondered if the thymus gland was connected with the increase in size of the tumour on the side of that gland.

Mr. F. J. HENRY said that he had had an opportunity of seeing this patient. The possibility of the tumour being a branchial remnant had been discussed, but it was soon found that this was not so. He wondered if there was any likelihood of the tumour being of the nature of a cystic hygroma. The consistency of the lump in the neck had suggested that it might be a lymphangioma, but it had been found that it was not. The swelling was resonant on percussion, which confirmed the view that it was an air-containing tumour. He referred to the similarity between this case and cases of oesophageal diverticula, which were supposed to develop as the result of increased tension inside the oesophagus.

Sir WILLIAM WHEELER, in replying, said that he felt that the case was almost proved, and might be regarded as one of laryngocele. If a condition was diagnosed beforehand the proper surgery was to dissect down and tie off communication between the cyst and the larynx. He thought it might be assumed that in this case there was a communication with the trachea which the injection of lipiodol did not show.

Reviews

INTRACRANIAL PYOGENIC DISEASES

The book with this title, by Dr. A. LOGAN TURNER and Dr. F. ESMOND REYNOLDS,¹ is an important addition to neuropathology, the result of nine years' systematic research. In *Pyogenic Infective Diseases of the Brain and Spinal Cord*, published in 1893, Macewen left comparatively little for subsequent workers within the limits of clinical observation and gross morbid anatomy. Recognizing this, Turner and Reynolds have endeavoured to trace, by means of the microscope, the path of septic infection, chiefly from the face and accessory sinuses of the nose, but also from the ear, to the interior of the skull. Their main conclusions may be briefly stated thus. They find no evidence of a spread by the lymphatic system, which they believe to be anatomically impossible, though some writers have suggested, and even stated, that the lymphatic system is the route of infection to the brain and leptomeninges.

Infection may occur in one of three ways: either by direct extension through loss of continuity in the bone; or by the blood stream, usually through a spreading venous thrombosis; or by a special regional path, of which the most important in the authors' experience is the perineural sheaths of the olfactory nerve. Their study of the venous infections is especially fascinating, and they insist upon the point that if these are to be properly understood the occurrence of a progressive retrograde thrombosis in the afferent venous tributaries to the large sinuses must be recognized. In this relation microscopical examination is essential. It may, for example, be shown in this way from serial sections that infection of the carotid plexus may be a retrograde complication from a thrombosed cavernous sinus. The authors explain also how a septic thrombosis may occur in both cavernous sinuses without any orbital manifestations.

The care and precision with which the research has been conducted, and the caution displayed in drawing conclusions from examination of the pathological material, after the careful weighing of every possible interpretation, must excite profound admiration. The clinical histories are given in full, together with the post-mortem and pathological findings of each case, and the volume is profusely illustrated with magnificent plates, both of morbid anatomical specimens and of histological preparations. Problems of surgical treatment as such have no place in this book, but a scientific systematic research of the highest order is revealed, and no oto-rhinologist, no neurological surgeon, no neuropathologist, must neglect to absorb the knowledge so skilfully presented.

GENETICS AND MEDICINE

It is hardly too much to say that Professor LANCELOT HOGBEN'S book entitled *Genetic Principles in Medicine and Social Science*² marks the beginning of a new phase in human genetics. Following the rediscovery of Mendel's work, there was a period of intense activity, not only in general animal and plant breeding, but in its applications to man. Soon it became clear that the new science was growing more complex and specialized. The small size of the human family and the slowness of human breeding made it appear that there was little hope of acquiring

¹ *Intracranial Pyogenic Diseases*. By A. Logan Turner, M.D., LL.D., Hon. F.R.C.P.Ed., and F. Esmond Reynolds, M.D., D.T.M. and H., M.R.C.P.Ed. Edinburgh and London: Oliver and Boyd. 1931. (Pp. xx + 271; 82 figures, 21 of which are coloured. 12s. 6d. net.)

² *Genetic Principles in Medicine and Social Science*. By Lancelot Hogben, D.Sc. London: Williams and Norgate, Ltd. 1931. (Pp. 230; 7 figures. 15s. net.)