The Influence of Personality on Prognosis

Two further cases will be briefly described in which psychopathic defects in the personality adversely affected the prognosis. In neither had there been any injury, but the clinical picture did not differ materially from that described above; in both the condition was recurrent. In one case the left hand was affected, in the other the right leg and foot. These two cases were admitted in 1940 and 1942 respectively.

Case 7 (Ordinary Seaman, aged 29).—This man came of a Naval family. His father was a Royal Marine pensioner and all his seven brothers were in the Navy. His mother had had several attacks of hysterical paralysis of the hand. He was brought up to join the Navy; no alternative was ever considered. He first joined in 1926, at the age of 15. He disliked the life from the beginning and never settled down, but the family tradition prevented his seeking his discharge. In 1930 his left hand, in the course of a few days, became swollen, painful, and weak. After nineteen weeks in hospital without improvement he was invalided from the Service. He was ostracized by his family and made unwelcome at home. Six months later, his hand having fully recovered, he rejoined in order to be accepted once more by his father and brothers. He concealed his previous invaliding for a time, but after a few weeks it was discovered and he was discharged as a fraudulent entry. Again he was disowned, but a transient recurrence of swelling, pain, and weakness of the left hand three or four times each year prevented his attempting to join the Navy again. He married, and for the next ten years, with his recurring disability as a face-saver, he was able to lead a restricted and lonely life, making no friends and cut off from his family. In Aug., 1940, he rejoined the Navy, but again found that he could not adapt himself to the life, and early in November his left hand became swollen, painful, cyanosed, and weak. He was admitted to hospital with the provisional diagnosis of "subacute rheumatism." Temperature, pulse, sedimentation rate, and radiographs of the hand were normal; there was no cervical rib. Physiotherapy, salicylates, and colchicum brought no improvement, and, in view of the long history and inadequate personality, psychotherapy was not attempted. He showed a marked emotional immaturity and dependency, being still strongly attached to his family, had a violent temper, and had frequently "fainted" at the sight of blood or on experiencing trivial pain. He was invalided as a case of hysteria.

Case 8 (Ordinary Seaman, aged 36).—This man's father was invalided from the Navy after the last war for neurasthenia. He was an anxious, depressive, ineffectual person with vague aspirations to become a teacher, although he took no steps to attain this end. He had for the past ten years earned three guineas a week as a pepper-grinder. In 1938, at a time when he was in financial difficulties which culminated in bankruptcy, his right leg "suddenly gave way" as he was rising from his chair, and he fell to the ground. He could move the leg, but it would not bear his weight. He did not see a doctor, but remained in bed for one month. He then began to get about, but complained of cramp-like pains in the calf if he walked above half a mile or if he climbed more than a few stairs. The pain would disappear after he had rested for some quarter of an hour, but the leg remained weak. Meanwhile, as he felt unable to go out, his wife attended to the bankruptcy proceedings, and for the time being relieved him of all responsibility. After a few months his leg ceased to give him any trouble, although he noticed that it had become, and remained, a little "thinner" than the left.

When he joined the Navy in Sept., 1941, he attempted to gain rapid promotion to petty officer by taking a trade test in engineering. He failed in the test and was bitterly disappointed at having to revert to "menial" tasks and less comfortable living conditions. His right leg again gave way, but recovered when he was drafted to another establishment to await a refresher course before attempting the test again. He felt, however, that he would not be successful. He obtained week-end leave, and his leg gave way once more as he left the train after completing his journey home. He was taken to his house and put to bed. Thence, in Jan., 1942, he was moved to a civilian hospital, where a diagnosis of thrombo-angiitis obliterans was made and intensive physiotherapy was given without improvement. In March he was transferred to a Naval hospital; here the condition was considered by the medical specialist to be hysterical, and he was transferred to this unit.

On examination there was wasting to the extent of 1½ in. in the right thigh and 1 in. in the right calf. There was extreme weakness of the leg, and he walked with impressive difficulty on two crutches, which he was persuaded reluctantly to abandon. The foot was cold and blue, and trophic changes were beginning in the skin. No sensory changes were found, although inconstant areas of diminished sensibility had been recorded previously. There were no signs of organic disease in the C.N.S., and in both feet the dorsalis pedis

artery pulsed normally. The C.S.F. was normal, the Wassermann reaction was negative in the blood, and there was no evidence of arteriosclerosis. The left leg and foot were normal.

Here again, in view of the psychopathic setting and the probability of relapse, psychotherapy within the Service was considered unlikely to be effective or worth while. He was invalided as a case of hysteria and was offered further treatment in an E.M.S. neurosis centre. He preferred, however, to return home, as he felt that he would "pick up" quicker there and be able to earn his living sooner.

Conclusions and Summary

A group of cases is described in which physical symptoms and signs of a distinctive character, hysterically produced or maintained, served greatly to prolong convalescence in six Naval ratings who had received injuries to the hand or arm. The importance of the early recognition of such psychogenic complications is shown by the rapid response to psychological treatment of a relatively simple kind, which was followed in all six cases by return to duty. The diagnostic criteria are discussed under three headings: (1) the physical findings; (2) the failure of physical methods alone and the good response to psychotherapy; (3) the demonstration, by the routine procedure of psychiatric history-taking and examination, of hysterical motivation. It is possible that psychogenic factors are sometimes overlooked in the differential diagnosis of vasomotor disorders.

Prognosis depends very largely upon the personality setting in which the hysterical symptoms occur. Two cases are described in which similar physical symptoms developed without previous injury or severe stress. In these patients the personality was markedly psychopathic, and similar illnesses had occurred in civilian life. Both these men were invalided from the Service.

The lay connotations of the term "hysteria" and the social worthlessness of many hysterics have given rise, understandably enough, to adverse moral judgments. These, however, are not justified in all cases of hysteria, and effective treatment, as well as justice, demands that a careful discrimination should be made.

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CHRONIC PULMONARY CATARRH IN CHILDHOOD

BY

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The varying manifestations of recurrent non-specific respiratory infection occurring especially in childhood allow of numerous names and diagnoses being given. Chronic pulmonary catarrh represents a very large proportion of these cases, and this term also usefully describes the condition in the majority. Leys (1927) introduced this name, and his monograph dealt fully with the bibliography and history. He found descriptions of numerous chronic or subacute infective pulmonary conditions under various names which could most satisfactorily be grouped together by this term, which describes the clinical state concisely and usefully. This does not seem to have been adequately noticed, and textbooks and the like do not appear to recognize this common and troublesome condition.

During 1942 there attended my asthma clinic at the General Hospital, Birmingham, 63 children under the age of 14. Most were sent up by their doctors with the general diagnosis of asthma, others for investigation of recurrent bronchitis and persistent or recurrent coughs. In only 12 of these cases did it seem that the condition was a true allergic asthma, the criteria being the previous occurrence of infantile eczema, direct relationship between the attacks and foreign proteins, freedom from respiratory symptoms and signs between attacks, greater frequency in summer months, normal lungs physically

and radiologically, and response to adrenaline and/or ephedrine. The remaining 51 were examples of chronic pulmonary catarrh, their first diagnosis being variously asthma, recurrent bronchitis, recurrent coughs and colds, etc. In a further group of 38 children, also under 14, seen in private practice for similar symptoms, 33 showed evidence of recurrent catarrhal infections of the respiratory passages, only 5 being cases of true allergic asthma.

The problems of true asthma in childhood have recently been dealt with in this *Journal* (Hurst, 1943, etc.) and numerous papers on the question of allergy have been published—e.g., Bray (1930).

While, doubtless, many asthmatics can be classed in the various groups of allergy, so to regard all of them leads to much disappointment. Skin testing may show sensitivity to proteins, but these are usually so varied as to make the knowledge of little value, whereas many others show no positive reactions at all. Chronic pulmonary catarrh appears to be the chief factor in the majority of the more or less non-allergic cases, and of the present group of 101 children 84 had associated underlying respiratory infections. Recurrent colds or upper respiratory catarrhs were followed by generalized pulmonary effects—coughing, tight chest, wheeziness, and more or less “asthma.” In other cases persistence of cough was the most troublesome complaint. Most of the children seemed to show an increased susceptibility to respiratory infections, or else had a chronic infection which was lighted up by unduly trivial circumstances such as changes of weather, exposure to cold winds, damp, fog, rain; and all the attacks were more frequent during the winter and early spring months. Cameron (1926) has emphasized this type of “catarrhal child.”

An impression has also developed that with the continuance of the war the natural improvement usually occurring in the spring and summer has been delayed or impeded, suggesting an underlying slight degree of hypovitaminosis or fatigue. During the period of heavy air-raiding the use of air-raid shelters was also evidently detrimental. Geographical effects have been noted in the aetiology: the plateau on which Birmingham stands is 450 to 550 feet above sea-level, far inland, and exposed to south-westerly winds, and the soil is largely clay.

Clinical Features

The clinical picture of the attack varies greatly. In some children it is mild, and is referred to as a bronchial cold with slight pyrexia and cough; in others the asthmatic features are predominant, with laboured wheezy breathing and prolonged difficult expiration. In another group a mild pneumonic attack seems to occur. The duration and termination also vary considerably, though the slowness of resolution and of disappearance of cough is most noticeable. The acute asthma picture often lasts several days and is followed by persistent wheezing and a cough, especially troublesome at night or increased by exertion with extra respiratory activity. The physical signs during the attack also vary and are not pathognomonic. Prolonged expiration is usual, but rapid shallow breathing is not uncommon. Rales and rhonchi may be heard anywhere, but especially posteriorly, and, significantly, they are almost always bilateral.

Between the attacks the child may be quite well, but one usually finds shallow breathing, poor development of the thorax as evidenced by round shoulders, flattening anteriorly and Harrison's sulcus, and coughing after deep breathing or exertion. Pharyngitis is often present as well, and large infected tonsils and post-nasal catarrh may be seen. These are certainly not always present; and often they have been treated, but without the expected recovery. While it is desirable to remove chronic upper respiratory infection, many parents are disappointed by the failure of such treatment to prevent the recurrent pulmonary attacks.

X-ray Appearances

Radiographic changes are common. The movements of the diaphragm are usually restricted. In the cases with an asthma tendency the thoracic cage is deformed, the ribs having an upward tendency from the excessive inspiratory efforts. The chest, too, tends to rise on inspiration instead of expanding. The lung roots are unduly heavy, suggesting glandular enlarge-

ment. The striations radiating therefrom are thick and increased, especially to the lower lobes, but often into all zones. The lung parenchyma itself may have a slightly woolly appearance. One of the most important points is the bilateral and symmetrical nature of the changes. During or immediately following an acute exacerbation there may be shadows of pneumonic consolidation in individual parts of the lungs, and films taken a few weeks later show these to have disappeared.

Bronchograms show normal bronchi. Occasionally bronchiectasis may simulate or complicate chronic pulmonary catarrh, but, in the group of cases that this paper is meant to illustrate, distortion or dilatation of the bronchi has not been noticed. Bronchography has been carried out on four of the cases in this series and on others, sometimes as part of the routine investigation and at other times when rales have persisted between attacks or when there has been more copious sputum. Clubbing is unusual.

Diagnosis

A number of cases have been tested with tuberculin, usually by the Mantoux, and the results are not different from what one would expect in their age group. In considering the diagnosis two points arise: first, the question of nomenclature; secondly, the differential diagnosis. Leys (1927) in his exhaustive monograph has reviewed the historical aspect and shown how the term “chronic pulmonary catarrh” usefully describes this common condition, which numerous authorities have seemed to diagnose under fibrosis of the lungs, fibroid lung, recurrent bronchitis, unresolved pneumonia, interstitial pneumonia, chronic bronchopneumonia, peribronchitis, and so on. Few necropsies have been recorded, and though chronic inflammation and fibrosis occur, it seems more desirable to use a clinical appellation rather than a purely pathological term.

Differential diagnosis has to be made from true allergic asthma, which has already been discussed; and also from bronchiectasis and tuberculosis, both of which have in the past been commonly mistaken for chronic pulmonary catarrh. The former is marked by the exudative nature of the symptoms, and the sputum persists and is purulent between the attacks. Bronchography easily decides the presence or not of dilatation, but now that one can correct clinical impressions thereby it is evident that the two conditions produce quite different pictures. Tuberculosis is often suspected, but the course of this disease has usually not the intermittent character, chronicity over years, and marked effect on the rate and quality of breathing. Radiologically the appearances may be similar, but the lesion in tuberculosis is especially in the parenchyma of one lung, whereas the catarrhal lesions affect the bronchi and bronchioles. The tuberculin test will often help to decide the issue if there is doubt, especially in children. Macpherson (1943) has shown the incidence of a positive Mantoux reaction in children, and under the age of 14 years it can be of great value.

True asthma is often difficult to distinguish. During an acute attack the symptoms and signs are the same—whether the result of spasm of the bronchiolar muscles or of oedema and congestion of the bronchiolar mucous membrane. A negative result from skin tests, no history of other allergic manifestations previously or in the parents, the definite relationship to catarrhal conditions of the throat, the slower recovery, persistence of signs between attacks, radiological changes, and lack of response to adrenaline and ephedrine are among the critical features of chronic pulmonary catarrh.

Treatment

In the acute attack treatment is that of acute bronchitis, asthma, or pneumonia, depending on the predominant features. On the other hand, the important thing is to reduce the frequency of the attacks and to limit the permanent damage that may result. Frequent and prolonged absence from school and increasing pulmonary fibrosis and emphysema may damage the prospects of these children very materially. There is no doubt that climatic measures can give the best results. In peacetime, wintering in Switzerland for several years has proved most satisfactory. There seems to be a tendency to grow out of the condition, or at least the susceptibility to it as

the child reaches adolescence; and if the ill effects can be prevented by avoiding the attacks for some years, much of the danger has gone. Other warm dry climates abroad are available, but economic as well as international difficulties preclude their help. In England the south and south-west coasts are valuable, but many inland districts are also reliable. From Birmingham many parents send their children to school in the Malvern district, and this relieves the majority. Open-air schools of the local authorities are also beneficial, particularly when they are found in sandy, sheltered, and warm situations.

In wartime especially, these measures are largely impracticable. Also, parents at any time are often loath to part with their children in their early years, and especially when they are delicate. For these cases breathing exercises have been found of extreme value. Their use has been increasing steadily in recent years, especially with the greater knowledge of the mechanism and physiology of the respiratory apparatus. Hurst (1927) has clearly described the main points, and the Asthma Research Council (1934) has also helped to popularize them. Livingstone and Gillespie (1935) have published some results which indicate their value.

The principal points required are to correct faulty posture and movement of the thoracic cage, to promote diaphragmatic movement, to increase respiratory excursion and resilience, and to improve expiration. Douthwaite (1930) has also indicated these points. There is no doubt that the disciplinary effect of these regular exercises is in itself of much benefit, and at the same time insistence on nose-breathing can obviate much of the reinfection and recrudescence of infection from the pharynx.

Teaching the exercises to the children may be done in a group, and I have a clinic at the General Hospital under the charge of Mrs. Brown, head of the massage department. This has the advantage of stimulating the team spirit and encouraging regularity, and of initiating new patients. The alternative is treatment individually, or perhaps in pairs. It is then easier to arrange times to avoid school hours, and with some of the more nervous or difficult children better control is obtained. It is essential that the exercises should be done regularly and daily, and regular supervision by the masseuse makes a great difference in keeping them correct and adequate. At my clinic the children attend twice weekly, and the mothers are also taught the exercises so as to make the children do them on the other days. It is essential to continue the treatment for months or years, and most failures or relapses are due to leaving them off too soon or to want of care in doing them regularly and persistently. The results are seen rapidly. The frequency of the acute attacks is reduced; the attacks are shorter; between the attacks the child is better, healthier in general, loses its cough, and becomes less susceptible to catarrhal infections. The condition seems to diminish naturally as the child grows up, but adequate treatment usually relieves it sooner, and so reduces invalidism and loss of schooling; also it obviates most of the permanent ill effects that may follow, such as chronic bronchitis, emphysema, and fibrosis of the lungs.

The general management of the child must also be watched and clothing and exercise be adjusted. Feeding is often difficult, but common-sense management is needed, especially as these patients can often be classed among the "nervous child" group (Cameron, 1929). As Cameron points out, the nervous child is particularly prone to catarrhal infections, whether from a lack of immunity due to chronic upper respiratory infection or from weak vasomotor defences. It is always necessary to remember the neuropathic tendency associated with most cases of asthma, recurring pulmonary infections, and the like. It is important, as Hurst has emphasized, that the child should not think he is an invalid.

Summary

The term "chronic pulmonary catarrh" describes a clinical syndrome common in children, causing recurrent respiratory "attacks," often suggesting asthma, but associated with inflammatory changes in the lungs. They cause much trouble to the parents and interfere with the child's development.

The symptoms, signs, and x-ray changes are described.

Treatment is most satisfactory by climatic measures, but, at the present time especially, breathing exercises are proving very valuable

and will relieve the majority of cases. It is essential that they should be controlled competently and be continued over a prolonged period.

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SURVEY OF VITAMIN C LEVEL IN WARTIME IN PREGNANT WOMEN

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The question of vitamin deficiency in wartime is one which is often under discussion. Vitamin C has perhaps excited the most interest because of the lack of fresh fruit and, to some extent, vegetables in present-day diet. Though the clinical symptoms of scurvy, which is the typical manifestation of vitamin C deficiency, may be absent, it is becoming recognized more and more that subclinical deficiency may be present to give rise to other less definite symptoms. The normal requirements of the body in order to prevent scurvy are usually stated to be 25 mg. of vitamin C a day, though Codville *et al.* (1938) believe the real needs of the body to be 100 mg. daily. Glazebrook and Thomson (1942), in their investigation on boys with tonsillitis, found that a supplementary dose of vitamin C to the normal diet reduced the duration of the disease. None of these boys, moreover, developed rheumatism or pneumonia, as did a small percentage of controls not receiving the supplementary dose. It would appear, therefore, that a higher dose than 25 mg. daily would prove beneficial to the maintenance of good health.

During wartime there have been various reports on the degree of saturation with vitamin C. Harris (1942), using the saturation tests described by Harris *et al.* (1935), investigated children in residential homes, elementary-school children, and university students. By comparison with results obtained under pre-war conditions he found that the average saturation curves for April, 1941, were lower than those for 1939. He also found a seasonal variation, the results being low after winter and better after summer. Francis and Wormald (1942) also investigated students. Their results after 9 months of war were not much different from those of a similar group 12 months earlier. After 21 months of war, however, a greater degree of unsaturation was found. More recently, Kohn, Milligan, and Wilkinson (1943) gave a preliminary communication on levels of vitamin A and C nutrition in school-children. They found that 72% of the control group were unsaturated, but that in the group which had received supplementary vitamins all were found to be saturated after three months' tests.

Present Investigation

It was considered that it might be of interest to examine a group of pregnant women with reference to their degree of saturation with vitamin C under wartime conditions. These women, though receiving certain extra rations—e.g., milk, and in some cases blackcurrant juice—have probably a greater drain on their resources owing to pregnancy. By collaboration with the doctor of an ante-natal clinic it was possible to choose the patients according to their degree of intelligence and power to co-operate. In all, 40 women were tested at monthly intervals on their visit to the clinic. They received a special form in which to record their diet for the week previous to the test, with special reference to fruit and vegetables. It was obviously impossible to control their diet or to take samples for vitamin C