OCULAR NEUROSIS*

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OCULAR symptoms may exist in the absence of any organic lesion of the eyes, or may appear to be of a severity which is disproportionate to the pathological abnormality. Cases showing these symptoms are neurotic in type and are particularly numerous in wartime. Hysterical amblyopia is a well recognised syndrome, and was described by Hurst (1942) in the 1914-1918 war in soldiers who had been exposed to acute battle stress. He summarised the condition by stating that "In order to see it is necessary to look, and if the hysteric does not wish to look, he will not see." Mahoney and Linhart (1943) have described field changes in cases of hysterical amblyopia occurring amongst American soldiers during this war. All their cases showed psychological inferiority before joining the army. Werner Bab (1942) has discussed the "Psychologic" problem in ophthalmological diagnosis, and Michaelson (1943) has published an account of the ocular manifestations of neurosis among troops in the Middle East war zone. Cameron and Stephenson (1943), in a paper describing anxiety states in the Navy, mention that minor ocular neuroses were relatively common. We desire to emphasise that these conditions occur frequently among members of the armed forces serving in the British Isles. The incidence is difficult to assess with accuracy, but we believe, after examination of 500 consecutive cases attending a Service ophthalmic clinic in wartime, that thirty-four per cent. (34 per cent.) are psychogenic rather than organic in type. No figures are available of the percentage in a peace-time hospital ophthalmic clinic or in a civilian centre in time of war, but Bruce-Pearson (1938) estimated that fifteen to sixteen per cent. (15-16 per cent.) attending a medical out-patient department in peace-time had no organic basis for their symptoms, and Todd (1943) found that among five hundred (500) consecutive cases attending the medical out-patient department of a Service hospital twenty-nine per cent. (29 per cent.) had a psychoneurosis.

Aetiology

Psychiatric background.—A history of previous nervous breakdown in the patient or his family is often present, and childhood traits of neurotic origin may be reported. Unhappiness in the

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home in childhood and parental strife may also form a background. The importance of predisposition has been stressed by Curran and Mallinson (1940), Gillespie (1942), and Symonds (1943) in papers dealing with the neuroses of war.

CASE 1.—A.B., aged 26 years, complained of diplopia when landing his aircraft, for which no organic cause could be found. On examination he was found to be physically fit, but his psychiatric background proved to be most unstable, and his personality was hysterical. He had tried many civilian occupations, and had joined the Service in a fit of bravado. The diplopia was cured by psycho-therapy and he resumed flying duties, but had only achieved a further fifteen (15) hours when he had to bale out, and suffered a fractured ankle, which subsequently induced a hysterical limp.

CASE 2.—C.D., aged 22 years, presented himself complaining of photophobia. He said that he was dazzled when his machine was caught in searchlights over Berlin, and that since that time he had not been able to face bright lights. Investigation of his history revealed that he had always been a nervous and anxious child, with nightmares to a late age. He had an abnormal fear of water and had never learned to swim. The most significant fact in his history was that, after being accused of stealing some money in civilian life, he had an amnesia until after the accusation was proved false. This man, despite his predisposition, had performed 270 hours operational flying in Bomber Command before developing hysterical photophobia.

Environment.—The occupation, climate, and contentment of the patient in his or her surroundings are important factors. Many members of the Services must work at uncongenial tasks under conditions of discomfort. Those who work in underground rooms commonly complain of ocular strain, and in one group of about a hundred, ten per cent. (10 per cent.) over a period of one year complained of ocular symptoms, which they attributed to bad lighting, though the illumination was very good. Their complaints which were based on a chronic anxiety and dislike of working underground, had no physical basis, and improved when ordinary electric light was replaced by artificial daylight, which encouraged a subconscious feeling that they were not below ground level. Climatic conditions are concerned in the development of ocular neurosis in men posted overseas. Men who believe that they have "weak eyes" often manifest ocular anxiety symptoms as a result of a conviction that the heat and glare of the tropics will have an adverse effect on their vision. Michaelson points out how this has caused the breakdown of certain individuals among troops on the voyage from Freetown to Capetown, while journeying to the Middle East zone. Anxiety neurosis has been seen in a pilot who, having heard of snow blindness, thought

that he would lose his sight after long reconnaissance flights in the Arctic regions. Exposure to wind and weather may lead to the development of neurotic symptoms. The ordinary discipline of Service life, with its confines and limitations, is irksome to many and plays a part in starting a neurosis.

Ocular awareness.—The eyes are among the most usual organs of the body to be involved in the manifestations of neuroses because everyone is sensible of their importance in the living of a normal life. The kidneys are more important, but, buried in the abdomen, they are seldom disturbed by functional symptoms. Werner Bab says, "The eye has to face, has to see, the whole of the hostility brought about by the struggle of, and for, daily life." In women there is the added factor of the importance of the eyes in feminine attraction. The basis of a neurotic reaction is produced by any factor which induces an abnormal awareness of the ocular mechanism. The fussy mother who tells her child that he must be careful not to strain his eyes may sow the seed of a future ocular neurosis, and people who have worn glasses at school may, in adult life, develop neurotic symptoms of ocular type in the absence of any organic abnormality. Ocular diseases which produce diminution of visual acuity may be accompanied by considerable functional overlay as a result of anxiety regarding the future course of the disease. It is found that a large proportion of patients, with heterophoria of significant degree, exhibit neurotic manifestations, doubtless a reaction to the continuous stress of endeavouring to maintain binocular vision. Gillespie (1944) has found sixty-two per cent. (62 per cent.) of sixty-one (61) cases of heterophoria in aircrew were nervously predisposed.

One group of patients which has a marked ocular awareness consists of people with a blind or almost sightless eye and a seeing eye, who suffer from anxiety associated with the thought of possible damage to that which is normal. Under Service conditions nearly a hundred per cent. (100 per cent.) of monocular personnel show neurotic symptoms.

CASE 3.—E.F., aged 36 years. The right eye was lost in childhood following an injury when his glasses were broken by a stone. The left vision was said to have been defective for one year. On examination the left vision was 6/60 -0.5cyl. axis 140 deg. 6/60. No organic change was present in the left eye. The visual field showed gross contraction. Investigation revealed an anxiety state induced by the absence of the right eye and fear of damage to the left eye.

Domestic stress.—Separation from home and family and the inability to deal adequately with domestic situations may cause anxiety symptoms.

CASE 4.—I.J., aged 50 years, a reservist, after four years' service in the R.A.F., began to complain of monocular diplopia.

No ocular lesion was found, his symptoms being hysterical and being due to worry about his wife's serious illness and the possible loss of his civilian employment to another man who had been, prior to the war, in a more junior position. His symptoms improved with re-assurance.

CASE 5.—K.L., aged 35 years, complained of diminished vision. Vision was 6/60 in each eye, with no gross refractive error. He had always shown nervous traits and had been over-attached to his mother, who had recently died. His vision had become progressively worse after this event.

Head injuries.—Hysteria and anxiety states are prone to occur after head injuries and functional amblyopia is found not infrequently. Organic damage of the globe and temporary or permanent paresis of ocular muscles may be the result of the accompanying injuries :

CASE 6.—M.N., aged 35 years, suffered a moderately severe concussion in an air raid. At the same time her husband and young son were killed. On recovering consciousness she was found to have a paresis of the lateral rectus muscle of the left eye and left visual acuity of 6/60. No improvement had taken place in six weeks and no organic cause could be found. G/Cpt. Keith Lyle, Senior Ophthalmic Specialist, R.A.F., - was convinced that the condition was hysterical, connected with the severe emotional shock. This was confirmed when treatment by persuasion and re-assurance improved the vision to 6/18. This patient was co-operative and intelligent, and accepted readily the explanatory part of the treatment. She remembered after a period of psychotherapy that she had seen her husband collapse before she lost consciousness.

Flying.—This factor is somewhat specialised, but certain points may be mentioned. Flying and the strain which it may entail is an important factor in the production of ocular neurosis in all members of aircrew, who depend for their very existence on the continuing efficient use of their eyes under most trying conditions. A pilot who begins to lose confidence and judgment in landing or in formation flying is apt to blame his eyes and not his mental make-up. The incidence of neurosis, however, is not so great among flying personnel as compared with ground staff, because the former are a carefully selected group.

CASE 7.—O.P., aged 24 years, an experienced pilot, performed a series of bad landings, and it was thought that his lack of judgment was due to defective muscle balance. No organic abnormality was found, the true cause of the symptoms being a lack of confidence in the new type of aircraft he had been flying. He had made a bad landing on his initial flight in this aircraft.

Clinical Manifestations

Blindness and defective vision.—The failure of vision varies in degree from complete blindness in both eyes to a mild defect in one eye. In these functional cases a characteristic feature is that the patient's ability to read the lines of letters on the Snellen's chart does not vary directly according to his distance from the chart, as happens with simple cases of visual defect due to a refractive error. It is frequently found that a man who reads 6/24 at 6 metres professes to be unable to read any more at 3 metres. It is always noteworthy, also, that no matter what is the extent of the visual defect on examination, these people can always see sufficiently well to keep themselves from harm, as by walking in front of moving traffic. The field of vision is usually contracted and it may be irregular. It may be found to be larger when measured with a smaller test object, or a larger field may be present for colours than for white. The duration of the visual defect is variable. So-called "black-outs" are often described, in which the vision is lost completely for a few seconds with subsequent full memory. These may be vasomotor in origin and occur as a disturbance at the psychological level on the basis of an anxiety state; the neurotic black-out is usually a sudden pre-occupation and lack of reality and not necessarily connected with a vasomotor disturbance.

CASE 8.—Q.R., aged 29 years. Blurring of vision described in one eye at 13.00 hours, progressing to complete bilateral blindness by 22.00 hours. Recovery commenced during the night and was complete 24 hours later. Subsequent investigation revealed that she was the only female officer at her station, and an hysterical state had been precipitated by imaginary difficulties arising in the course of her duties. Although this case was considered to be hysterical, the possibility of the symptoms being due to arterial spasm cannot be altogether ruled out if it is admitted this occurred in a hysterical individual. This symptom is also illustrated in Case 3.

Asthenopia.—Eye-ache, eye-strain and tiredness of the eyes are common complaints in neurotic patients. The pain is frequently exaggerated, and in some described as going through the eyes "like a red-hot needle," or feeling like "a red-hot coal" at the back of the eyes. Investigation frequently reveals that the discomfort is always present while working at Service duties, but that other close work can be done without difficulty, though in bad cases the patient protests that any kind of reading brings on pain. The symptoms rarely disturb sleep.

CASE 9.—Aged 26 years. Complained of headaches and eye-ache of three years' duration. They had started while on a flight mechanic training course. They were always worse in bright sunshine, and as his work was often in the open air he was not a

very useful member of the Service. There was no organic abnormality of the eyes except a very small degree of hypermetropia. Investigation proved that an anxiety state was present as a result of his dislike of his duties. He was re-mustered to another trade and his headaches ceased.

Photophobia and excessive blinking.—These symptoms are very common neurotic manifestations in the eyes, and may accompany other complaints of functional type. They vary in degree from a mild dislike of bright light to almost complete blepharospasm, which renders examination of the eye a matter of extreme difficulty. Cameron and Stephenson (1943) found this symptom after exposure to explosion flash in naval personnel. It is often found that photophobia is worse in artificial light than in daylight. In the ordinary neurotic patient complaining of these symptoms no abnormal conjunctival congestion is found.

CASE 2 demonstrates an example of this system.

Night blindness.—This is a common complaint under Service conditions, and though sometimes due to organic changes in the retina, high refractive errors, or increasing age, it is, in the majority of cases, neurotic in origin. Everyone has difficulty with night vision in the blackout, and it is only where a neurosis is present that the individual is unable to adapt himself to the difficulties involved. The onset is frequently relatively acute following a slight accident or a change to an occupation which is disliked.

CASE 10.—U.V., aged 32 years, complained of severe headache and inability to see at night, of two months' duration. The refractive error was small, and no other organic abnormality was present in the eyes. Investigation revealed that two months previously he had been transferred to work which necessitated his driving a car at night, and this had precipitated an anxiety state.

Diplopia.—This is a common complaint which often is not present when the patient comes to examination, no matter how frequently this is repeated. Thus it is not possible to attempt any assessment of the type of diplopia. When present at examination it is usually found to be due to a deficiency of convergence, which, as Bielschowsky and others have pointed out, is usually of functional origin. Treatment of this, in the presence of an underlying neurosis, is not satisfactory. In a few cases where diplopia was present at examination it was quite irregular and did not correspond to the paresis of any muscle. The diplopia may be unicocular; one case has shown triplopia.

CASE 11.—W.X., aged 49 years, complained of double vision of vertical and horizontal type of three months' duration. No history of strabismus. Examination revealed no organic change except a few peripheral lens opacities. Investigation of the diplopia showed that the two objects were in the same relationship

throughout the whole field, one being above and to the right of the other. Diplopia persisted when the left eye was covered but not when the right eye was covered. Psychiatric examination revealed an anxiety neurosis due to worry about his home and civilian occupation.

CASE 12.—Y.Z., aged 35 years. A severe head injury seven years ago, now, complains of headache and triplopia. No organic ocular change except a small degree of hypermetropia. Examination of the triplopia showed that one object is central and that the objects on each side tend to be inclined away from the middle one. Investigation revealed an anxiety neurosis following his head injury.

It should be emphasised that cases of neurosis are essentially polysymptomatic and that two or more of the above symptoms usually occur in the same patient. It is also worthy of note that symptoms tend to be contradictory, and signs to be irregular, as compared with organic conditions.

Diagnosis

The most careful history must be taken and full examination made to exclude organic disorders of a magnitude capable of producing the symptoms of which complaint is made. This is important therapeutically, also, to instil confidence in the patient that full investigation is being carried out. Subsequently the psychiatric state may be probed for the aetiological factors previously outlined. No single clinical finding is characteristic of cases of this type, and the classical spiral field of hysteria has not been found in our series. Two organic cases which were at one period diagnosed as functional in type illustrate the necessity of full and careful examination.

CASE 13.—A.Z., aged 22 years, had for two years complained of increasing fatigue, of periods of diplopia, and for the last three months of dysphagia during her evening meal. This girl had been diagnosed as hysterical by three psychiatrists, one stating that she showed the typical "la belle indifference." This was the myasthenic facies, and the case was one of myasthenia gravis. She responded rapidly to prostigmine and is now leading an active life. The normal remissions connected with this disease had been thought to reinforce the diagnosis of hysteria.

CASE 14.—B.Y., aged 24 years, began complaining of increasing anxiety and severe right-sided headache. The symptoms were thought to be due to an anxiety neurosis, but after a month her right eye became slightly exophthalmic, although there was at this time no other signs of thyrotoxicosis. After another month had passed she showed a well-marked thyrotoxic reaction with bilateral exophthalmos, a resting pulse of from 90 to 100, and a

basal metabolic rate of plus fifty (+50). After eight weeks of medical treatment she had improved sufficiently to return to light work, and her basal metabolic rate was reduced to plus twenty (+20).

Treatment and Prognosis

The treatment of such cases depends on how much value re-assurance of the patient will have in clearing up his symptoms, and will only be really effective in a patient whose basic personality is sound. At times it may be possible to help by settling some domestic or environmental stress. Fear of going overseas to a degree to induce neurosis is a contra-indication to foreign service.

The prognosis of cases where real fear of disease exists is good because careful examination and re-assurance often cures them. Where the conflict is deeper and is bound up with various fears and troubles intimately connected with Service life the prognosis for future service is poor, and in particular the hysterical cases, as seen in Case 1, will be all too prone to develop further somatic disturbances of hysterical origin, even if their ocular conditions respond to psychotherapy. A large number of these cases are capable of living a useful life under civilian conditions, and invaliding from the Service may cause a marked improvement in their symptoms.

Commentary

The cases described are seen primarily by the ophthalmologist, and it is desirable, if he is not a skilled psychiatrist, that they should be referred for psychological investigation of the underlying causes of the symptoms. Certain cases have been on the borderline of neurosis and conscious malingering, but these are few, and we consider malingering to be rare. It is desired to emphasise that among the different causes of ocular neurosis the common factor which appears in all is "ocular awareness." Werner Bab has divided the cases into those with organic disease and those without, but we postulate that all patients believe that they have an organic change in their eyes, and this is the precipitating factor which decides the localisation of the neurotic symptoms. All cases of chronic illness tend to develop a functional overlay, and chronic ocular conditions are no exception. The careless remarks of friends and relations may act as a spark which causes the development of a neurosis, while Stephenson and Cameron find a significant number of cases become ocularly conscious due to blindness in a relative and a corresponding fear of the patient. The incidence of such cases in war has not been, in the majority, due to battle stress, but a result of the varied maladjustments incurred by service. Most of our cases have been,

like those of Michaelson, chronic anxiety neuroses rather than hysterics, and where a gross hysterical defect has been found the patient has been constitutionally inferior and mentally backward.

It is advisable to diagnose and dispose of these cases as rapidly as possible, and a lengthy stay in hospital is undesirable, although careful examination to exclude organic disease is essential. Many of the cases of ocular neurosis are inevitable in wartime, and no remedy exists. A greater education of the public in ocular hygiene and eradication of the belief that working in artificial light and close study damage the eyes might reduce the incidence of ocular neurosis. It is suggested that an intelligent realisation of the strength and potentialities of the normal eye can do nothing but good.

Summary

1. A description is given of the aetiology, clinical manifestations, diagnosis, prognosis, and treatment of neurotic ocular conditions.
2. Emphasis is laid on the common factor of ocular awareness found in all cases.

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REFERENCES

- HURST, A. P. (1943).—"Medical Diseases of the War." Arnold, London.
- MAHONEY, V. P. and LINHART, W. O. (1943).—*War Medicine*, 1943, Vol. III, p. 503.
- WERNER BAB (1937).—*Münch. Med. Wochr.*, Vol. XVI, p. 612.
- (1942).—*Amer. Jl. Ophthalm.*, Series 3, Vol. XXV, p. 321.
- CAMERON, J. and STEPHENSON, C. V. (1943).—*Brit. Med. Jl.*, Vol. II, p. 603.
- MICHAELSON, L. C. (1943).—*Brit. Med. Jl.*, Vol. II, p. 538.
- BRUCE PEARSON, R. (1938).—*Lancet*, Vol. I, p. 451.
- TODD, J. W. (1942).—*Brit. Med. Jl.*, Vol. I, p. 19.
- CURRAN, D. and MALLINSON, W. P. (1940).—*Lancet*, Vol. II, p. 738.
- GILLESPIE, R. D. (1942).—"Psychological Effects of War on Citizens and Soldiers." Chapman and Hall, London.
- SYMONDS, C. P. (1943).—*Brit. Med. Jl.*, Vol. II, p. 703.
- BIELSCHOWSKY, A. (1939).—*Amer. Jl. Ophthalm.*, Vol. XXII, p. 603.