ORGANIC BASIS OF A PSYCHOSIS

REPORT OF A CASE

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Although the field of the psychoneuroses has for long been rather loosely recognized as one of "functional" disorders, the use of this term in relation to the psychoses has rightly been regarded with some suspicion. The debatable ground between functional on the one side and organic on the other is treacherous in the extreme.

Dubois and Déjerine, two most important workers in the investigation of the neuroses, indicated almost fifty years ago how clearly definite physical symptoms could be shown to have a purely functional origin and how readily they would yield to psychotherapy. They both pointed out two important truths—namely, that in any functional neurotic disorder there might well be some superadded real organic disturbance which should always be carefully sought for and recognized by both physician and patient, and also that in their experience persuasion and discussion were useless as applied to, for instance, a case of paranoia.

In connexion with this point it is interesting to recall that Freud mentions a case of a patient who was treated for some time as hysterical when, in fact, she was afterwards found to be suffering from an inoperable retro-peritoneal sarcoma. Adolf Meyer also has mentioned a patient suffering from *tabes mesenterica* who for years was exposed to what he calls a "mental hygiene attack" on her illness.

On the other hand, the literature is full of examples of unfortunate individuals who have been exposed to surgical intervention for purely functional conditions whereby incalculable harm resulted. A personally observed case was that of the removal of an innocent appendix where the boarding of the abdominal muscles and local pain were due to changes in tonus caused by encephalitic sequels. Von Economo, in his work on this topic, himself mentions this type of occurrence.

These brief, flagrant references illustrate the complexity and duality of the position, and it is felt that this case is a forcible example.

The Patient's History

The patient was a single woman aged 40. Her complaints were expressed in vivid terms:

1. Tinnitus in both ears, which she described as "pandemonium." It was associated with long-standing deafness on both sides, which was due to middle-ear catarrh resulting from a severe degree of cleft palate, *via* the development of nasopharyngeal and Eustachian catarrh. The cleft palate considerably affected her speech, and materially assisted in producing the attitude of mind out of which her psychosis appeared to develop.

2. Severe pain, described as "burning agony" all over the brow, extending from the orbital margin to the roots of the hair and laterally into the temple. She said that when she pressed her brow it aggravated the pain, and she felt as if air were rushing into her head.

3. Her mental state arose out of the two foregoing features. She was extremely agitated and morbidly depressed. She said that the tinnitus and pain indicated that her brain was decaying, and that the condition had been caused by poison in her food, gas, and electrical influences. She stated that this plot against her life and sanity had been commenced by her stepmother, and was being carried on by communists.

So far the condition, although serious, was not of a nature to excite unusual interest. It appeared to be a straightforward example of agitated depression with hypochondriacal features and the usual nihilistic idea of loss of the contents of the head together with difficulty in thinking, and the not uncommon appearance of paranoid features. This impression was confirmed by a review of the life history of the patient and an estimate of personality, both of which formed a case history of the classical "reactive-dynamic" type.

She was the younger of two children. Her mother died soon after the patient was born, and she became devotedly attached to her father. This natural devotion seems to have been unduly effective in modifying her behaviour. After a normal school life she showed excessive repugnance to the advances of young men, and explained that her father needed her. Unfortunately this did not appear to be the case, for he married again, very much against the patient's wishes, and she was much upset. Even this, however, did not enable her to make a satisfactory adjustment in her relations with men. Her attitude to her changed home conditions was in terms of her personality make-up. This had apparently always been of the type prone to develop dominant notions, and was rigid, uncompromising, and essentially lacking the ability to make adjustments or adaptations. This temperament had been present from her earliest years, and she had always been "difficult." In spite of her inability to adapt herself to the changed home conditions where she was no longer mistress, owing to the advent of the stepmother, she was unable to realize the need for a career of some kind, and stayed at home nursing her grievance.

About this time war broke out and she served with the forces for several years. During this period she was well and happy. It is quite striking that this implied nothing to her, and she returned home to a domestic situation none the wiser for her absence. Almost immediately she developed, as might have been expected, a mild attack of depression. This was cleared up in an interesting way. The attack seemed to have been of the mild psychoneurotic type, without any distortion of the thinking, but with the appearance of fatigue symptoms as a depressive equivalent. In addition, however, she complained of pain in the lower part of the face on both sides. She was taken to a rhinologist, who, after x-ray examination, washed out the maxillary sinuses. This procedure was followed by a gradual clearing up of the depression. It is interesting to observe that this depression appeared to be reactive to her return into an intolerable home situation, and also that she had not enough insight to seek an occupational outlet in some other environment. One is tempted to wonder if the subsequent history would have been altered if psychotherapeutic aid had been present at this time.

During the post-war years the situation gradually became worse. She pursued no occupation, and by degrees became more averse and hostile to the home situation. To this was added the usual suspiciousness of the deaf person, for by this time the deafness was becoming severe. Considerable conflict arose in her ambivalent attitude to her too well-loved father. She felt that he had wronged her by marrying again. Unwilling to accept this, she evolved the idea that he had really not wished to do so. Her attitude to her stepmother became unbearable. She lived in an atmosphere of fancied slights and imaginary insults, for all of which she blamed her stepmother.

After some years she became definitely depressed, and showed typical symptoms. She was sad and fearful; she blamed herself for things she had done, all of them quite insignificant. She said her head felt empty and

that she could not think. Shortly afterwards she began to complain of the tinnitus. She did not complain of the deafness, which had developed so gradually that she had become used to it. The depression allowed opportunity for sharper focusing on the tinnitus, which accordingly became worse.

With the development of formal psychotic symptoms there came the severe pain which formed the major part of her complaint when she was seen by us. She stated that the first appearance of the pain had been after her stepmother had given her a glass of wine, and that thereafter the pain had been almost continuous. She also stated that her stepmother had enlisted the aid of Bolsheviks and communists, who used wireless to perpetuate the pain and so deprive her of her reason. In this way the death of the stepmother, which occurred after the psychosis had developed, had no influence on the interpretation of the symptoms.

Such was the state of affairs when she was seen by us; she had been ill for a number of years, the psychosis was well developed, and she presented a very typical picture. Furthermore, as has been said, the development of the psychosis had taken place along typical lines. It presented a clinical type to be found in large numbers in any mental hospital. The characteristic features of such cases are depression with agitation, hypochondriacal features of all sorts, head sensations of the nature of pain or emptiness, and nihilistic ideas such as the absence of the brain or viscera. In addition, the illness was warranted by environmental and personality factors. There seemed no real grounds for regarding the case as anything but a very typical depression of involutional character.

The Physical Condition

Several points in the physical picture, however, aroused curiosity. The malfunction of the fifth nerves seemed to warrant special attention, especially as the head pains were, for the patient, of paramount importance. In fact, in spite of her delusions and the persecutory plot of which she felt herself a victim, she frequently stated that she could face the situation were it not for the pains. This statement differed in tone and reasonableness from almost all her other remarks. Also the head pains had been the starting-point of formal psychotic development. Furthermore, a developmental defect was present in the shape of a severe degree of cleft palate.

Interest in this was further stimulated by her behaviour on an occasion when, for no special reason, she experienced a cessation, so she said, of the pain. She was in bed when this occurred, and was found reading. She threw down the book, and with extreme animation expressed not unnatural joy at the relief. Opportunity was taken to talk with her for some time, and her conversation was rational. She also did not "rise" when led up to delusional topics. The next day she was as bad as ever.

Her mental state made it difficult to carry out an examination of the distribution of the fifth nerve with satisfactory accuracy, but after several examinations it seemed definite that there was loss of light touch and hypersensitivity to painful stimuli in the territory of the supraorbital branch of the fifth nerve on each side. Thermal sense and localization seemed unaffected.

With this discovery two points seemed to appear in sharp relief. First, that it was the appearance of the pain and its paranoid interpretation which had induced a severe degree of mental derangement in the place of a recurrent depression of reactive type. It will be remembered that she had had a previous depressive attack from which she had recovered. Secondly, attention was drawn to her oft-repeated plea for morphine, and her

statement that if the pain were away she could face the other difficulties. Her condition was such that the effect of sedatives could not be assessed accurately, but they did not appear to relieve the pain, as would be expected; moreover, analgesics seemed ineffective, which lent support to the functional and psychic nature of the pain. She was not told what medicine she was being given.

Reaction to Novocain

Some method was then sought with a view to putting the apparently involved section of the fifth nerve out of action. At the suggestion of one of us (N. M. D.) novocain 2 per cent. was injected around the right supra-orbital notch. This abolished the pain for about an hour. The patient was much impressed, a feeling which we shared.

Then occurred an incident illustrating the difficulty of evaluation and also the degree to which this unfortunate woman had deteriorated rationally in her long illness. When the left side was being similarly tested some of the solution escaped into the lax tissues of the eyelid. Little or no anaesthesia was expected, and this was fulfilled. The patient declared that the injections were intended to destroy the remaining part of her brain, and refused to allow another attempt. This at once threw doubt on the whole procedure, and months elapsed without any further steps being taken, since the evidence was felt to be insufficient in view of the strong counter-evidence that the condition was psychological and "functional."

Finally, however, a favourable opportunity arrived, and one of us (N. M. D.) injected each supraorbital notch with novocain. This produced local analgesia and anaesthesia, and abolished the subjective pain. Operation was then decided upon.

Surgical Treatment

Anaesthesia was commenced with avertin administered rectally, following which the patient went to sleep soundly. After sleep had thus been quietly induced, gas and oxygen anaesthesia was instituted, so that the patient was brought to operation without any anxiety, and in fact without her knowledge. The supraorbital bony margins were exposed on each side by an incision in the line of the eyebrow, and immediately evidence was seen to support the growing belief in an organic lesion of the supraorbital nerves.

On both sides there was a bony bridge across the supraorbital notch, converting it into a foramen or canal. On each side this bony bridge was removed, opening up the canal and converting it into a notch similar to that of normal anatomy. The canal was about 7 or 8 mm. long on each side, and as the nerve was traced back it could be followed into the roof of the orbit, where anatomical conditions were again natural. These canals were very narrow, and there was quite obvious constriction of the nerves during their passage through them.

Resection of the nerves was decided on; they were severed distally, and the proximal part was drawn upon for the purpose of dissecting them as far back along the roof of the orbit as possible before severance. On both sides further confirmation of the abnormality of the nerves was given by the fact that, when thus pulled upon, the nerves broke at the point of compression in the narrow canals with undue ease. The proximal part of the nerve was seized again on each side, and each nerve was finally cut well back along the orbital roof.

Healing was uneventful, and no serious difficulty was encountered in the after-management of the wounds or the removal of the stitches. The patient was certainly

suspicious of any such surgical procedures. Histopathological examination confirmed the view that the nerves were abnormal, for extensive myelinic degeneration was found to be present. The patient was discharged to her own home convinced that her pains had gone and that the head noises were less severe, presumably due to lowered nervous tension generally. Unfortunately, before the progress of the case could be further observed, she developed influenza and died from bronchopneumonia.

Conclusion

This patient, then, suffering from what appeared to be a characteristic "functional" or "dynamic" variety of psychosis, typical both in development and in end-result, finally proved to have as the central symptom and major precipitating factor a disorder of a purely organic and remediable nature. Apart from the obvious queries as to the general level of integrity of the nerve structures

in such a patient, loaded by a developmental failure of buccal structures, one finds this case history significant along general lines. It adds one item of information to the complex situation of "functional" and "organic" in nervous disease and to the problem generally of the very common cephalalgias met with in this field.

The case is one of depression developing as a reaction to an unhappy life situation. Paranoid features appear, due to the interpretation by the patient of a painful symptom. The weight of presumptive evidence suggests that the pain is "functional." Investigation puts this in some doubt. The pain is finally proved to be organic in origin. The question is posed as to what the progress of the case would have been if the painful symptom had been treated at its outset seven years before, and attention is drawn to the need for the recognition of the association of functional and organic features in psychotic and neurotic states.

AGRANULOCYTIC ANGINA

A CASE OF THE RELAPSING TYPE

BY

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Morris, Miller, and Thacker Neville,¹ in reporting a case of agranulocytic angina recently, remark that "as the number of recorded cases in this country is still small, it is well that every accredited case should be reported with as full notes as possible on symptoms and treatment."

Amidopyrine and its allies have been thought to be causative agents in some cases, but in this case, as in my previous one,² it cannot be so. After the commencement of one of the attacks the patient was given four sedormid tablets, but as soon as the diagnosis was made these were stopped, and no drug of this character was taken before the final relapse. Apart from the problem of aetiology that of treatment has also been difficult, and the value of pentnucleotide, which was thought at first to be very great, is now being questioned.

My first case, that of a man of 71, recovered without having any pentnucleotide, and is still quite well now. In this present case it was thought that pentnucleotide had been responsible for the recovery in the December attack, but in view of subsequent events doubt must be cast on its value.

Case History

A woman aged 59 years had always enjoyed good health and had had three children, all alive and well. In April, 1934, she had what was apparently an attack of tonsillitis, which quickly subsided, and she was well again within a week. On November 15th, 1934, she again developed tonsillitis, with a temperature of 102° F., but was more ill than in April: the throat had the appearance of a follicular tonsillitis, and a throat swab was reported on as follows:

"No diphtheria bacilli present: cultures give a growth of *Streptococcus longus* which is non-haemolytic, and a yeast: the former produced 95 per cent. of the colonies and the latter 5 per cent."

The patient, when once over the initial stages, made a good recovery, and was about again after twelve days; then on December 17th, 1934, having been quite well up to the previous evening, she fell suddenly acutely ill with a sore throat and high temperature. This time the degree of toxæmia seemed much greater than before. The report on the throat swab was:

"Direct examination of this swab shows debris only; cultures, however, resulted in a mixed growth of the following organisms in about the stated proportions: haemolytic *Streptococcus longus*, 35 per cent.; non-haemolytic *Streptococcus longus*, 30 per cent.; *Streptococcus brevis*, 20 per

cent.; *Staphylococcus albus*, 15 per cent.; no Klebs-Loeffler bacilli were cultured."

On December 21st her condition was definitely worse, and streptococcus (scarlatinal) antitoxin 10 c.cm. was given and a blood film taken; the report on this was: polymorphs, nil; lymphocytes, 92.4 per cent.; mononuclears, 7.6 per cent.; eosinophils, nil.

The diagnosis was now made and pentnucleotide 10 c.cm. was given twice daily. Gradually the exudate spread from the left tonsil all over the soft palate, and the right side was also involved. On December 21st and 22nd there were occasional erythematous patches of a blotchy character to be seen over the arms, and three days later these were seen on the abdomen. The pulse became intermittent at times and swallowing was difficult. A throat smear of December 22nd was reported on:

"Direct examination of this smear shows epithelial cells and various organisms, including many streptococci: no polymorphs were present."

There were signs of the huge slough that had formed separating on December 23rd, and on the following day the soft palate showed patches where the slough had come away.

The sloughs continued to separate, and on December 27th it looked as though a portion of the left tonsil had sloughed off, and the uvula appeared smaller and shrunken. Steady progress followed, but there was a slight reappearance of the exudate on January 1st, but by January 10th there was no sign of slough or exudate. During this illness the patient remained mentally alert. When drowsy she was perpetually groaning, but on being roused was at once normal and did not seem to realize that she had been making a noise. This behaviour was repeated in the subsequent attack.

The fever lasted nine days, and although clinically convalescence appeared to be uninterrupted, yet the blood counts did not improve as consistently as was desired. Three further injections of pentnucleotide were given and four of sodium nucleinate 2 c.cm., but neither had any pronounced effect on the blood counts. After February 19th no special treatment was given, and on March 15th the total white count reached 7,080, with 59.2 per cent. polymorphs: the various blood counts are appended below.

On July 22nd she went a journey of thirty miles to see her son; she began to feel unwell while having tea, and on arrival home that evening complained of a sore throat. Her temperature was already 102° F. and there was a slight exudate on the left tonsil; 20 c.cm. of pentnucleotide was given at once, and this was followed by vomiting. On the following day there was an exudate on both tonsils; vomiting occurred again