NEW DEVELOPMENTS IN THE MANAGEMENT OF SCHIZOPHRENIA

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INTRODUCTION

Fashions come and go in psychiatry as they do elsewhere, and over the years we have seen various explanations of the cause of schizophrenia. There was the septic focus theory which led to hospitals full of edentulous patients, followed by the era of the schizophrenogenic family succeeded by the straightforward biological theory. This was comforting to both patients and psychiatrists – find the magic bullet and schizophrenia will be cured. The medical profession is having to learn that even when cures are found patients are not necessarily cured. Any chronic pathology produces secondary disabilities wherever it originates and nowhere is this more true than in mental illness and schizophrenia in particular.

Few psychiatrists would dispute that schizophrenia is a biological disorder of the brain but the degree to which these biological factors can be treated using a simple medical model is more contentious. We assume abnormalities in dopaminergic and serotonergic pathways have some relation to the symptoms seen in schizophrenia but, at our present level of understanding of the brain, chemical treatments are unsophisticated.

Some people with schizophrenia make a full recovery, usually those who have experienced significant stresses resulting in an acute illness which responds well to medication. For others the condition follows a relapsing course, while for the most severely affected it is a chronic disabling condition associated with multiple secondary disabilities such as loss of status, unemployment, financial difficulties, poor housing and social stigma. While the positive symptoms of hallucinations and delusions respond to medication, the negative symptoms of poor motivation, apathy and social withdrawal do not. Negative symptoms make it difficult for the sufferer to interact socially and to access services in a competent way. They are frequently compounded by side-effects of medication.

There is an increasing recognition throughout medicine of the rôle of psychological factors in provoking and maintaining illness and these factors are subsumed under the heading "stress". Life with schizophrenia is undoubtedly stressful.

We have now moved from a simple biological model of schizophrenia to one which sees the condition as being multifactorial in origin. In 1977 Zubin and Spring⁽¹⁾ proposed a stress-vulnerability model and this model in various forms is increasingly accepted. At its simplest, schizophrenia occurs when an individual with a biological vulnerability is subjected to sufficient stress to precipitate the illness. Secondary stresses will then tend to maintain the condition.

The benefits of such a model are that it allows for a range of treatment options which address both biological and social factors.

NON-DRUG THERAPIES

Family work

Interest in non-drug therapies started with the recognition that sufferers living in families where there is a high level of criticism and negative attitudes experience a greater risk of relapse than patients in low expressed emotion (EE) environments. A range of interventions has evolved from these studies. Initially, attention was directed towards changing high EE families into ones with low EE. These approaches had limited success as it was recognised that there was a complex relationship between a patient's mental state and the responses of carers. Family interventions⁽²⁾ now include education about mental illness, its origins and treatment. Many families still carry a burden of guilt, feeling they are responsible for the condition, and this can lead to unhelpful attitudes towards treatment. In addition to educating individual families, many carers benefit from the informal support and insights provided by relative groups.

Education does not itself change behaviour and the second main focus of family work is directed towards problem-solving. There is evidence that families with poor coping strategies are linked with a less favourable outcome for the sufferer. Problem-solving encourages a family to address practical difficulties, eg how to get the patient out of bed, by improving communication, discussing possible strategies and testing out ideas. Many families benefit considerably from this as they learn that they have an active and positive rôle to play in helping the sufferer.

Cognitive behaviour therapy

Behaviour therapy, which is a method of treating psychological disorders, developed from work with animals which linked a stimulus such as ringing a bell with a normal physiological response such as salivation in the presence of food. Eventually the bell would produce salivation on its own. These principles were introduced into treatment programmes to deal with abnormal behaviours and reached their height in the "token economy" wards of the 1970s, where patients received tokens for appropriate behaviour, which they could exchange for rewards. Experience showed that although behaviour could be controlled, any improvements were dependent on maintaining the reward systems and general behaviour was not improved. Pure behavioural treatments are rarely used nowadays but the principles are incorporated into other psychological therapies.

In contrast, cognitive therapy developed from the work of Beck, who recognised that depressed patients had certain recurrent thoughts of a negative nature which could be treated by helping the patient to identify the faulty thinking patterns and then to modify them. Cognitive behaviour therapy uses behavioural principles to modify unhelpful thought processes and is becoming an increasingly used treatment with wide

application. It is a structured and focused management which studies have shown to be cost-effective in the treatment of neurotic disorders and is also a valuable adjunct to medical treatments in obsessive compulsive disorder.

A small proportion of schizophrenics fails to respond to antipsychotic medication and in many more there is only a partial remission. In such individuals, cognitive behaviour therapy can be useful either by reducing the distress caused by symptoms or by enabling the sufferer to develop coping strategies.

In the past one was taught not to challenge delusional beliefs as they were seen to be totally outside normal experience. The work of Kingdom and Turkington⁽³⁾ emphasises that many normal people hold beliefs with no rational basis and postulates that schizophrenic experience is only the extreme of a spectrum. Their work looks at the rationale behind individual patient's delusions and then attempts to modify these beliefs.

Many patients have developed ways of coping with distressing symptoms, for example the use of personal stereos to distract from auditory hallucinations. Cognitive behavioural approaches can help patients to reinforce positive management strategies or to develop other ways of dealing with symptoms. As there is evidence that faulty thinking patterns become established during the first psychotic episode, cognitive behaviour therapy may have a place in acute treatment, dealing with symptoms and establishing a realistic attitude towards medication.

NEUROLEPTIC MEDICATION

Although our understanding of the neurobiological pathologies involved in schizophrenia is still limited, increasingly sophisticated non-invasive imaging techniques are beginning to clarify the situation. Dysfunction in neurotransmitter systems is thought to hold the key to schizophrenia. All neuroleptics which have an effect on schizophrenic symptoms cause dopaminergic blockade. There are at least five different dopamine receptors in the brain and the majority of neuroleptics have a high affinity for D2 receptors, the exception being clozapine.

Action

Neuroleptics have two main actions: antipsychotic effect and a calming or tranquillising action. The latter may be beneficial in an acutely disturbed patient but late in treatment can add to the disabling effects of the illness. The antipsychotic effect is thought to be mediated through the action of the neuroleptic on the dopamine receptors, particularly those in the mesolimbic system. Motor side-effects such as tremor, akathisia and tardive dyskinesia arise from the dopaminergic blockade in nigrostriatal systems as well as from the effects of such drugs on other neurotransmitter receptors.

Dosage

Following a number of highly publicised deaths in individuals treated with large doses of neuroleptic medication, increasing attention has been given to dosage regimes in schizophrenia. In 1994 the Royal College of Psychiatrists published a Consensus Statement⁽⁴⁾ on the use of high-dose antipsychotic medication, advising against the

routine use of antipsychotic doses above BNF limits either as monotherapy or in combination therapy.

This advice is supported by experimental evidence from a variety of sources, perhaps the most impressive being PET studies at the Karolinka Institute in Sweden. Neurological signs in Parkinson's disease are known to occur only after 89% of dopamine cells are lost from the *substantia nigra*. Extrapolation of these results to anti-psychotic medication showed that Parkinsonian symptoms started to appear when 75-80% of dopamine receptors were blocked and this occurred on doses of 15mg of haloperidol a day or less.

Research evidence indicates that low doses of neuroleptics are likely to be as effective in alleviating psychotic symptoms as higher ones. This has the additional benefit of reducing both short-term reversible side effects such as drowsiness, tremor and akathisia and also the potentially irreversible tardive dyskinesia.

Acute treatment

Once neuroleptic medication has been initiated there is a high level of dopamine blockage within 24 hours but there appears to be a time lag between this and the relief of psychotic symptoms. In an acute state much of the initial benefit appears to arise from the sedative effect of the neuroleptic and there may be the temptation to increase dosage to calm agitated behaviour. Advice in the consensus statement from the Royal College of Psychiatrists suggests a better option may be to combine moderate doses of antipsychotic with a benzodiazepine. A commonly used combination is droperidol 5-10mg plus lorazepam 2.0mg up to four times daily. If the patient is non-compliant with oral medication an alternative is the medium-term depot preparation zuclopenthixol acetate (Acuphase) but this should be administered under 24-hour nursing supervision and not given to neuroleptically naïve patients.

New antipsychotics

Sulpiride has been available for some years and has fewer side effects than traditional antipsychotics. It is well tolerated with a low incidence of extra-pyramidal side effects but can cause galactorrhoea. Risperidone has been more recently introduced and in clinical trials is as effective with a lower incidence of adverse effects than haloperidol. Both drugs are useful in the management of treatment-compliant patients who can be relied upon to take oral medication. Sulpiride has the advantage of lower cost.

Atypical antipsychotics

About 70% of patients will respond to conventional antipsychotics within four to eight weeks. Some of these will default from medication at a later date because of side effects which may be intolerable for certain individuals. Clozapine differs from other antipsychotics in having a low affinity for D2 receptors. It was introduced in the 1970s but proved to have a high risk of neutropenia and after a number of deaths from agranulocytosis was virtually withdrawn from use.

Despite risks it was reintroduced with a sophisticated monitoring system for patients with treatment-resistant schizophrenia. Sixty percent of such patients will respond to treatment, mostly within the first six months. There is a 1% risk of agranulocytosis with the greatest risk being during the initial 20 weeks of treatment in women or people of Afro-Caribbean extraction. It is effective for both positive and

negative symptoms and the main side effects are salivation, sedation, weight gain and epileptic convulsions. Limited experience is now being gained with olanzapine which has been available since the latter part of 1996. Biochemically it is very similar to clozapine but does not appear to carry the same risks of agranulocytosis. Haematological monitoring is unnecessary and it has been used in patients who developed neutropenia on clozapine without similar problems.

Service delivery

A diagnosis of schizophrenia encompasses a wide range of disability. Some individuals will make a full recovery, others will respond well to medication and continue to live full lives, while at the other end of the spectrum there is a poor response to treatment and significant impairment of social functioning. The majority of sufferers lie somewhere in the middle and benefit from a variety of therapeutic interventions which require coordination. Throughout the world it is recognised that optimum therapeutic benefit occurs when one professional is responsible for coordinating care. This approach is known generically as case management. In the 1990 NHS and Community Care Act the local authority was given responsibility for developing social care plans for people with complex needs. At the same time the Department of Health introduced the Care Programme approach for everyone accepted for treatment by the secondary mental health services, with every patient being allocated a key worker.

The co-ordinating rôle is crucial for patients with complex needs and there are two models under which services are provided. In the 'brokerage' model the key worker may or may not have a therapeutic rôle but will negotiate for services needed by the patient, such as day care, welfare benefits and household aids. The second model is Assertive Community Treatment (ACT). Here the key worker will be a member of a multi-disciplinary team dealing with similarly disabled individuals. Caseloads are small and the team will provide a variety of skills, including medical, nursing, social work, occupational therapy and psychology. Treatment is delivered in the patient's own environment and the emphasis is on active engagement and involvement of the patient in the treatment. In addition to administering and monitoring medication a wide range of goal-orientated psychosocial interventions will be provided, the key worker calling on skills provided by the other members. Patients will have individual care packages tailored to their needs and the team as a whole will be responsible for administering the package. This approach allows for continuity of care during periods of leave or sickness. Meta-analysis of studies comparing case management with Assertive Community Treatment show a reduction in the level of disability with ACT not seen with a brokerage model.

BACK TO REALITY – LOCAL SERVICES FOR SCHIZOPHRENIA

There is always a conflict between providing targeted and often expensive care for a few selected patients and spreading resources to provide care for the many. Locally the mental

health services have prided themselves on 'consuming their own smoke' and there is a continuous struggle to optimise services by focusing on the most severely ill while not neglecting those patients with less severe but still disabling illnesses. For patients with schizophrenia the Community Rehabilitation Team based at White Cross fulfils the rôle of an ACT service, although for some clients who are well stabilised the care co-ordinator (key worker) may act primarily as a broker.

The Community Rehabilitation Team is composed of community psychiatric nurses (CPNs), social workers, occupational therapists and nursing assistants. On referral a full assessment of needs is carried out, a care co-ordinator is allocated and a care plan drawn up. The care co-ordinator will provide the main therapeutic input but will use other team members as secondary therapists where appropriate, eg to work with families. There is active networking within the team so if a client is known to be unwell team members will intervene if necessary. A duty system operates during office hours and there is a CPN available for team clients at weekends. The team is truly multi-disciplinary in function and has part-time input from a consultant psychiatrist based with them. There is a wide range of skills available within the team, including counselling, a variety of psychosocial interventions and social activities. Patients are never discharged, due to the longterm nature of their disorders and the possibility of future relapse. Clients and their carers are encouraged to contact the team if problems of any kind arise; this approach recognises the rôle of stress in precipitating relapse, and where possible appropriate interventions will occur. These may be as basic as taking a client to the Department of Social Security if a benefit Giro fails to arrive on time, or may be more obviously therapeutic, such as administering medicine.

Team members carry a higher caseload than ACT teams, as a number of their clients will be well stabilised and require a low level of input. The Community Rehabilitation Team works closely with the Social Services' community support team, whose workers have small caseloads and provide intensive practical support to the most severely mentally ill. Two members of the team are currently involved in psychosocial intervention training and it is hoped that the additional skills gained will be disseminated throughout the team. Other aims for the future are to obtain formal psychology input and to consider providing a psychosocial intervention package to all newly-diagnosed schizophrenics and their families.

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