Original article

Organic psychiatric disorders in the older persons

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Background: A primary, retrospective study was done to determine the frequency and describe the patterns of presentation of delirium, dementia and mood disorder in the elderly.

Methods: The sample was collected over 3 months and consisted of 10 patients above 60 years of age with features fitting those conditions, conventionally labeled at the time as Organic Brain Syndromes (OBS).

Results: We found that OBS in hospitalized older people was common (29.41%) and the detection of these syndromes was poor, taking almost 5 days for a psychiatric referral to be made. Clinical presentations heterogeneously varied and the majority of cases were in a delirium (60%) due to various causes. Only low dosages of treatment were required to treat the symptoms, except in those who had a premorbid psychiatric disorder. Finally, symptom resolution was achieved (30%) only where the medical conditions causing the OBS were reversible, as is expected.

Conclusion: This cost-effective study found that OBS in hospitalized older people was common, frequently diagnosed late and had a varied presentation.

Key words : Delirium, Dementia, Depression, Pseudodementia, Post-stroke dementia

Introduction

'Organic Brain Syndrome' (OBS), in the conventional nosology, refers to diseases of the brain presenting with psychiatric symptoms. This most commonly refers to delirium and dementia. Patients diagnosed with OBS account for approximately 20% of all first admissions to mental hospitals. Over 50% of geriatric patients in mental hospitals fall into this category, and as much as 10-20% of the elderly population in the community may be similarly affected. Different and distinct organic brain syndromes exist and each of these entities is based on a unique clinical presentation with a more or less specific aetiology, with each having its own distinctive pathology and prognosis. OBS may differ from case to case depending on the combination of aetiologic factors. Although not a specific neurological diagnosis, it remains a standard diagnostic category and a justification for the use of the term is as an abbreviated phrase referring to the full range of abnormal mental symptoms commonly associated with definable neurological disease[1]**.** Although the term Organic Mental Disorder is no longer used in the Diagnostic and Statistical Manual - 4th Edition (DSM-4)[2], because it incorrectly implies that 'non-organic' or 'functional' mental disorders do not have a biological basis, it should be stressed that OBS are defined in psychological or psychiatric terms, and not in neurologic terms, and that they carry no specific aetiologic implications and are purely descriptive[3]**.** However, this term is still widely used in clinical practice here, much to the dismay of academicians, and it proves to be a common 'error' when referrals are made, thus prompting us to have this study done to determine whether referrals of the term 'possible OBS' were indiscriminately, and loosely, used. The recognition of certain clusters of symptoms as organic will alert the psychiatric clinician to the possibility of non-functional disease. To separate organic

from functional is an essential step in the assessment of patients, but proper management ultimately requires further refinement of diagnosis. To group all of these patients together indiscriminately masks any potentially beneficial or harmful effect of a particular agent on a subgroup of them. Therefore, the use of specific diagnoses has a beneficial effect in that although most organic mental disorders cannot be reversed, a small number of cases are potentially treatable. Failure to consider specific entities subsumed by the diagnosis of OBS may result in missing some treatable causes of dementia[1].

OBS in the older persons constitutes a neglected area of neurology, geriatrics and psychiatry. Concern for elderly patients with organic brain disease, especially the chronic variety, has grown among psychiatrists and other physicians in recent years because these disorders have increased in absolute number in society, which has a steadily increasing population of individuals over 65. Chronic medical diseases that often lead to psychiatric problems in the medically ill elderly are cerebrovascular disease, Parkinson's, Alzheimer's and other neurological diseases, cardiovascular disease, lung, kidney and liver diseases and arthritis. Medications, the use of which increase with age, should not be taken lightly and should always prompt a careful search for drug toxicity and the interactive effects of medications. Auditory and visual impairments arising from degenerative diseases of the eyes and ears justifies special attention as they may impair responsiveness to the interpersonal and social environment, increase feelings of vulnerability among elderly persons and cause hallucinations in the affected sensory modality in some patients. Finally, falling and fall-related injuries increase dramatically with age, particularly in those over 75 years of age. Head injuries with neurobehavioural complications may initiate a downward spiral leading to death[4]. We, retrospectively, conducted a very simple study to determine the frequency, and describe the patterns of presentation, by which OBS manifest in the elderly in our setting. We also incorporated numerous and lengthy facets of discussion to compare the thoughts and outlook between the old and the newer literature, particularly for the benefit of the Medical Officer and Trainee Psychiatrist or Internist when dealing with elderly patients and to stimulate

personal research into this area, considering this study was conducted at no cost whatsoever and involved only a small number of patients.

Materials and Methods

A total of 34 patients were referred to the Consultation-Liaison (C-L) Services of a tertiary medical centre over a 3-month period. All cases were assessed within 3 hours of receiving the referral form and a detailed mental state examination was done that included assessment of perceptual disturbances, thought content and cognitive functioning which encompassed orientation, immediate recall, recent and remote memory, as well as attention and concentration. An evaluation of the putative central nervous system was then done and when organicity was evident, a diagnosis of OBS was accorded as the term was still predominantly used in our setting then. After defining 60 years and older as the geriatric age group, we selected the 10 patients falling into this category to be the focus of this study. Further information regarding the onset of symptoms and subsequent management was obtained from the patient's treatment notes. The most likely triggering factor for OBS in each patient was identified and DSM-4 was used for coding of the disorders. The findings were finally entered into a semi-structured questionaire consisting of demographic data (age and sex) and descriptive data (duration of symptoms before referral was made, Axis 3 diagnosis, presence of underlying psychiatric disorder and previous psychiatric contact, liaison psychiatry diagnosis, presence of perceptual disturbances, orientation and cognitive functioning, types of psychiatric treatment administered, presence of total symptom resolution upon discharge and compliance to follow-up). As controversial from present day studies as this communication may be, the discussion of this study tries to merge the comparison of thoughts from the former ideology of what constituted OBS and the present perception of this entity and subsequently, the importance of addressing and managing it well.

Results

1) Demographic data:

a) Age -

The ages of the 34 patients in the original sample ranged from 16 to 86 years. Of the 10 aged 60 years and above (29.41%), the mean age was 68.0 years.

b) Sex -

4 were male and the other 6 were female.

2) <u>Descriptive data:</u>

a) Duration of symptoms before referral -

The mean length of time these patients were symptomatic before referral was made was 4.7 days.

b) Axis 3 diagnoses -

These 10 patients suffered from a variety of medical, surgical

and orthopaedic illnesses.

Table: 1 Axis 3 diagnosis

♦ End stage renal failure and Cerebrovascular accident
♦ Diabetes mellitus and Ischaemic heart disease
♦ Intertrochanteric fracture with Avascular necrosis of right hip
♦ Multiple myeloma with Insulin-dependent diabetes mellitus
♦ Primary lung carcinoma with Bone metastasis
♦ Diabetic ulcer
♦ Diabetic foot
♦ Cerebrovascular accident
♦ Cerebrovascular accident
♦ Cerebrovascular accident

c) Underlying psychiatric disorder -

4 of the 10 patients had premorbid psychiatric illnesses and they were :

- Dementia
- Simple deteriorative disorder
- Mental retardation with Bipolar affective disorder
- Major depression.

d) Previous psychiatric contact -

Only 2 of them had previously seen a psychiatrist and they were the ones with :

- Mental retardation with Bipolar affective disorder
- Major depression.

e) Liaison psychiatry diagnosis -

The respective DSM-4 diagnoses were given to the patients.

Table: 2 Liaison psychiatry diagnosis

♦ 293.0 - Delirium due to Uremia
♦ 293.0 - Delirium due to Post-operative state
♦ 293.0 - Delirium due to Post-ictal state
♦ 293.0 - Delirium due to Brain metastasis
♦ 293.0 - Delirium due to Diabetes mellitus
♦ 293.0 - Delirium due to Diabetes mellitus
♦ 290.42 - Vascular dementia with Delusions
♦ 290.43 - Vascular dementia with Depressed mood
♦ 290.40 - Uncomplicated Vascular dementia
♦ 293.83 - Mood disorder due to Post-operative state

f) Orientation -

- All 10 were disorientated to time, only 2 were disorientated to place (Uremic delirium and Vascular dementia) and 4 were disorientated to person (Delirium due to Metastasis, Hyperglycaemic delirium, Vascular dementia and Post-operative mood disorder).

g) Cognitive functioning -

6 had impaired immediate recall (Uremic delirium, Post-ictal delirium, Delirium due to Metastasis, 2 with Vascular dementias and Post-operative mood disorder). All 10 had impaired short-term memory. Only 1 (Post-operative delirium) had intact long-term memory. All 10 had impaired attention and concentration.

h) Perceptual disturbances and thought disorder -

The 5 of them mentioned below experienced the following :

- Post-operative delirium — Visual and auditory hallucinations, derealization
- Post-ictal delirium — Visual and auditory hallucinations, paranoia
- Delirium due to Metastasis — Visual and auditory hallucinations
- Hyperglycaemic delirium – Grandiosity
- Vascular dementia — Auditory hallucinations, persecutory delusions.

i) Psychiatric treatment -

Only those 2 with previous psychiatric contact and the one with a previous psychotic disorder required medication at relatively large doses and these consisted of Haloperidol 10mg b.d., Sulpiride 200mg nocte, Risperidone 3mg b.d. and Citalopram 10mg daily. The rest required only small doses of neuroleptics, anxiolytics and antidepressants.

j) Total symptom resolution upon discharge -

Only 3 were completely asymptomatic after commencement of treatment and upon discharge. They were the ones who suffered from Uremic delirium, Post-operative delirium and Post-operative mood disorder.

k) Follow-up - All 10 were non-compliant to follow-ups and only the one with Vascular dementia and underlying mood disorder came to our Walk-in clinic months later to replenish her original psychiatric medication.

Discussion

In this study, 60 years of age and above was considered as the geriatric age group. This is in accordance with guidelines

on the definition of age for elderly patients taken from the Proceedings of the First National Symposium on Gerontology, 1995[5]. We found that almost 30% of patients suffering from OBS were in the geriatric age group, with a mean age of 68 years. The females had preponderance over the males. The average age of our patients with OBS was lower as compared to a study by Rudberg et al (1997), where the average age of their subjects was 75.2 years , with 13% of their population over the age of 85 years[6], and a 2-year local study, where the mean age was 75.5 years, and 21.4% of the patients were above 65 years[7].

It was also evident that these syndromes were poorly recognized as it took almost 5 days of symptoms before a psychiatric referral was made. While hospital physicians have been repeatedly criticized for failing to detect delirium and dementia in elderly medical inpatients, Harwood, Hope and Jacoby (1997) scrutinized medical notes and concluded that the physicians in their study hospital had detected the majority of patients with cognitive impairment of clinical significance. And even if physicians detect as few as half of those found to have cognitive impairment later, it is uncertain whether the cases missed are of clinical significance[8]. Particularly in the case of delirium, the diagnosis in some cases may be problematic, especially with changing definitions, since the time course can be quite long and because of the variability of symptoms[6].

Like how the patterns of delirium are different, so too are its causes. Cerebrovascular accidents dominated the picture as the commonest cause of OBS in our study. Complications arising from Diabetes mellitus constituted the 2nd commonest cause. Most of them suffered from delirium as the cause of their confusional states. 6 groups of patients have a high risk of developing a delirium and they are elderly patients, post-cardiotomy patients, burns patients, patients with pre-existing brain damage like dementia and strokes, patients with drug dependency who are experiencing withdrawal and patients with Acquired Immunodeficiency Syndrome (AIDS). As age advances, the risk increases, with persons aged 60 or over usually cited as the highest risk group (Lipowski, 1980, 1990). While studying the natural history of mental disorders in older people, Sir Martin Roth (1955) reported acute confusional states among psychiatric patients in 7.5% of patients aged 60-69, 9% in patients aged 70-79 and 12% in patients over age 80. Bedford (1959) reported that 80% of the 5000 patients aged 65 years or over admitted to the Oxford Geriatric Unit during an 8-year period had confusional states. Inouye et al (1989) and Francis et al (1988) reported that 23% and 25.3%, respectively, of patients over the age of 70 were delirious during hospitalization. The differential diagnosis of delirium is so extensive that there may be a tendency to avoid the search for aetiologies. It is also important to realize that confusional states, particularly in the elderly, may have multiple causes. Each potential contributor to the delirium needs to be pursued and reversed independently[9]. In a case-controlled prospective study, George et al (1997) identified the causes of delirium and found that the commonest cause to be infection. 25% of patients had multiple potential causes of the delirium. There was also a significantly higher level of vision and hearing problems in patients with delirium. Presumably, sensory deprivation makes elderly patients more predisposed to develop delirium[10]. Koponen (1989) found clear organic aetiologies in 87% of delirious patients and also found that patients who became confused because of psychological and environmental events were severely demented[9].

Katzman and Karasu estimated that the senile form of Alzheimer's Disease ranked as the 4th or 5th most common cause of death in the US as early as in 1975[11]. The prevalence of Alzheimer's disease shows that around 5% of those affected are 65 years and above and 20% of those over 85 years are affected at any one time. However, the prevalence of dementia among the Chinese 65 years and older has been found to be lower than those found in Western countries and in Japan. There is an estimated 6% prevalence rate of dementia among the elderly Malays in an urban settlement in Malaysia as compared to 4% in Malays and 2.3% in Chinese staying in Singapore[12]. Much work in the past 3 decades has been devoted to understanding the pathophysiologic mechanisms underlying the obscure dementing disorders for which, up to recently, no specific treatment was available. Seltzer and Sherwin (1978), distinguished 2 major divisions within the general class of organic syndromes – the 1st was a group of patients whose symptoms chiefly involved one category of psychological function (e.g. memory) and were highly correlated with focal pathology of the brain. They were termed 'circumscribed neuropsychiatric syndromes'. The 2nd group of patients had multiple neuropsychological deficits. Their symptoms were less easily correlated with focal disease and the underlying lesions were usually multi-focal or widespread. The general term 'dementia' was applied to this group[1]. Tomlinson et al (1970) found that degenerative diseases played a far more important role in the genesis of dementia than did vascular disease. Fisher (1968) said that dementia due to cerebral infarction is usually manifested by abrupt onset, stuttering course, and symptoms and signs of focal neurological dysfunction. According to him, slowly progressive dementia (in the absence of acute episodes and focal neurological signs and symptoms) rarely results from cerebrovascular disease, except in the patient with prolonged, sustained

hypertension[11]. When dementia begins in the pre-senile period due to pathognomonic morphological changes in the elderly, it may be labelled Alzheimer's disease, senile dementia, or senile dementia Alzheimer's type. The current view is that the clinical diagnosis of dementia should be seriously questioned when thorough morphologic study does not account for the clinical picture. Pseudodementias are too common and too accurate in their mimicry of true dementia to permit diagnostic complacency. Also, delirium may be easily misdiagnosed as dementia, especially in the elderly, in whom the diagnosis of dementia is often accepted too quickly and uncritically[11].

A number of our patients in this study (40%) had previous mental disorders but only half had seen a psychiatrist before. Although only 1 of them had a functional depressive illness, this elderly group would be susceptible to developing depression. Depression is the most frequently encountered mental disorder in the elderly; it is estimated that more than 10% of the elderly population suffer from major depression with a considerable proportion of the remainder experiencing depressive illness or depressive symptoms. This may well be an underestimate since many elderly patients present with non-specific complaints such as somatic, cognitive and behavioural symptoms and may, therefore, be incorrectly diagnosed and treated. Also, depression in older persons is frequently more severe, more chronic and more likely to be resistant to treatment then in younger patients[13]. Kiloh (1961) demonstrated that pseudodementia was particularly common in late life depressive disorders. Similar findings were subsequently reported by Cavenar et al (1979), Wells (1979) and Caine (1981). Folstein and McHugh (1978) had argued that depression can give rise to a dementia which, although reversible, probably has a true organic basis and should therefore, not be labelled as 'pseudo'. McAllister and Price (1982), Reifler et al (1982) and Shraberg (1979) argued that the concept of pseudodementia oversimplifies the division between cognitive and affective disorder. They believed that depression and organic brain impairment often occur in parallel and that this co-occurrence gives rise to the phenomenon of pseudodementia[14].

Although the nature of their underlying medical conditions were varied, all of our patients had in common, global cognitive impairment. All were disorientated to time and had impaired short-term memory and attention and concentration. The relationship between cognitive impairment and depression in older persons is complex. Cognitive impairment associated with depression may herald future dementia and there is an increased rate of depression in patients with mild dementia[8]. Miller (1975) had reviewed the literature on cognitive deficit in depression and concluded that there is general intellectual impairment, as well as deficiencies in memory and learning. Dementia would be found more in the depressed elderly than in the depressed young. There is an interaction or multiplicative effect of age and depression on cognitive performance. An interaction effect of this type could arise if depression magnified the effects of aging. The changes in the brain found in normal aging might overlap with those found in depression, producing an especially strong cognitive deficit when they occur together. Mildly demented subjects are more prone to depression than the elderly with normal brain function. This sort of effect could also arise if depression greatly magnified the effects of mild dementia but had weaker effects on cognitive performance in the normal elderly. McAllister (1983) concluded that cases with depressive pseudodementia were significantly older than cases with pseudodementia associated with other psychiatric disorders. Nonetheless, it is known that the diagnosis of dementia in cases of depression can occur in the pre-senium as well. Marsden and Harrison (1972), Nott and Fleminger (1975) and Ron et al (1979) have all reported that a small percentage of cases first diagnosed as presenile dementia later turn out to be depression. Folstein and McHugh (1978, 1979), using the Mini-Mental State Examination (MMSE), found that scores of depressed patients tend to fall markedly after 60 years of age, but not in all cases. Furthermore, the MMSE scores of depressives aged over 65 overlap in range with that of demented subjects with Alzheimer's disease and stroke, but many elderly depressives still score outside the demented range[14].

There were similar types of perceptual disturbances in those patients who experienced psychotic features. Hallucinations were basically both visual and auditory. Thought disorder in the form of delusions was mainly paranoid in content. Although these organic conditions were acute and generally not transient in the majority of them, this group required only low doses of medication. Only those with a previously demonstrable functional illness required relatively high doses of medication. The remainder of them settled with low doses of medication, as were the findings from a larger cross-sectional, follow-up study that expanded on our present sample[7]. As in all medicine, treatment is most efficacious when there is a specific remedy for the specific disease causing the clinical syndrome. Fear, anxiety, depression, elation, agitation, apathy, insomnia, and a host of other symptoms are common, and relief or palliation is as essential here as in patients with functional disorders. Therapeutic tools for symptomatic treatment of these organic disorders include supportive psychotherapy, environmental manipulation, pharmacotherapy and family counseling, all

of which are useful or even essential. However, in the absence of intact neural structures, symptomatic results are often less impressive than those achieved in patients with structurally normal brains, and symptomatic treatment obviously cannot reverse progressive disease processes[11].

The most important point was that only those patients with reversible medical conditions had complete resolution of their symptoms. As mentioned earlier, this was an expected finding and only 3 were completely asymptomatic after commencement of treatment, and upon discharge, and they were the ones who suffered from conditions where the cerebral insult was completely reversible. It may be hypothesized that because delirium is a syndrome and not a disease, variation should be expected, especially in older populations, where much heterogeneity occurs. Nevertheless, Chandrasekaran, Jambunathan and Zainal (2005) found that elderly patients had no significant decreases in symptom resolution and mortality, nor an increasing need for continued treatment, as compared to those younger than 65 years[7]. Rockwood (1989) had shown that the mean duration of delirium in hospitalized older people varied greatly with a mean of 7 days and a range of 9 days. The changes over time and the variability among subjects may, in fact, be a cause of some of the variation in previous studies of the rate, as well as the duration of delirium[5]. The ones with Vascular dementias showed no improvement in their conditions and would thus, be more likely to develop depression at a later stage. Although depression is well recognized as a cause of failure of rehabilitation and a barrier to recovery after stroke (Adams and Hurwitz, 1963) and that it occurs commonly in selected groups (Robinson and Price, 1982)(Robinson et al, 1984), it is frequently missed in practice (Fiebel et al, 1979). Losses and life events are known to be important causes of depression in the elderly, and post-stroke depression (PSD) may well be a reaction to loss of physical health and function (Murphy, 1982)[15]. Depression is a frequent sequelae of stroke and up to 50% of stroke patients may develop depression during the acute post-stroke period. Although the treatment of elderly stroke patients who have multiple medical problems is sometimes difficult, it has been shown in controlled trials that most PSDs can be effectively treated. This makes depression one of the most readily treatable conditions which occurs in stroke patients, and its treatment may improve not only mood but also physical and intellectual recovery[16]. Our group of patients also had very poor compliance to follow-up, a finding that could possibly be attributed to their carers' understanding of the illness. Most were in that age group that left them dependent on their carers. Additionally, they had medical conditions that were of sufficient severity that left them debilitated.

The results in our study conflict with the commonly held view that delirium in older persons is a transient illness. They also suggest that there are important lessons for the practicing geriatrician or old-age psychiatrist. Clinicians should always be aware that there may be many contributory factors for OBS. In short, the key concepts in psychiatric care of the medically ill elderly are the recognition that diminished organ reserve alters response to illness, treatment, and social stressors, and keeping in mind that interacting causal patterns are the norm. Thus, coordinated care is better care and non-drug treatments are preferable, but only when effective. Combining treatment modalities optimizes therapeutic gains and last but not least, not to forget that the provision of comfort, function and safety are the major goals of treatment[4]. The health status of the caregiver, his/her psychological and social aspects, including living arrangements, as well as family functioning and their response to illness make up the important determinants of the social support system. Only by moving beyond global descriptions of persons, problems, and outcomes and considering the effects of biological, psychological and social characteristics on caregiver functioning can we advance our understanding of adaptive processes and continue to establish criteria for effective assessment, treatment and management decisions in intervention with this vulnerable and underserved population.

As this study was done for the reasons mentioned earlier, and to promote awareness (and possible interest) of medically-trained staff to be on the alert in considering OBS when encountering older patients, we had no difficulty hunting for criticisms. The first would be is that some patients with confusional states admitted to hospital may have been missed. This is a problem with many studies on delirium as many patients with mild, transient delirium may not always be detected. Conversely, OBS may have been too casually used as a diagnosis at the time, although we have since moved on and accorded the appropriate, and internationally recognized, diagnostic coding systems. Therefore, misdiagnosis in cases where there were overlapping symptoms of delirium, dementia and depression may have occurred. Another limitation is the lack of documented information in the medical case notes as to the exact patterns of initial presentation of these episodes. The third limitation was that the poor medical conditions of our patients disabled attempts to carry out assessment scales on cognitive functioning (e.g. MMSE), or on functionability, and judgment had to be made solely on clinical grounds. Finally, the last, and most important limitation, is the very small number of patients involved here thus, raising the possibility of encountering Null hypotheses had statistical

analyses been carried out. Also, pattern studies could not be conducted. As unjustifiable as that may be, we wish to again express that our aim was merely to prove that some facts pertaining to obtaining information, and subsequently conducting a baseline study, are available in every hospital and attempts should be made to identify occurrences of certain illnesses, in varying age groups. This is much needed, especially in developing countries such as ours, where polymorphism in illnesses may differ from those frequently published in Western literature, and where monetary funding is frequently a concern.

Conclusions and Future Directions/Implications

OBS in hospitalized older people is common and frequently diagnosed late. It has a varied presentation. The attending Medical Officers and Trainee Specialists need to consider this great heterogeneity when caring for patients, and when considering this syndrome. We possess more questions than answers at this moment but the fact that so many questions are being asked proves that brain diseases in the elderly, acute and especially chronic, are no longer the neglected backwaters of neuropsychiatry. The importance of these disorders, in both numerical and personal terms, is being appraised in an increasing manner and is reflected in the advances that have already been made. Their recognition as diseases, and not inevitable concomitants of aging, should be a harbinger of improved treatment, and perhaps even of prevention.

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