

# Brain Disease and Psychopathology

## Difficulties in diagnosis and patient management (A Case Series)

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**This paper describes a series of cases, all of them had a history of organic brain damage or disease and who had attracted a psychiatric diagnosis. The role of neuroimaging, electrophysiology, and neuro-psychological assessment in exploring the underlying organic pathology is discussed. The clinical work-up along with investigation was the key in successful management of these cases.**

**Key Words: Brain Disease, Psychopathology**

It is not always possible to distinguish functional and organic mental illness on the basis of symptomatology alone. Different varieties of pathological changes are often associated with similar forms of functional impairment and conversely a single pathological change may give rise to a spectrum of psychological symptoms depending on the nature of the brain insult, its site and the factors within the individual<sup>1,2,3</sup>.

Many studies involving a spectrum of illness have attempted to clarify complex relationship between brain disease and psychopathology<sup>4</sup> and the recent advances in neuroimaging have facilitated this work<sup>3,5</sup>. Psychoses, neuroses, and personality disorders have all been the focus of research<sup>4, 6, 7, 8, 9</sup>.

In many clinical situations the diagnostic process may be complicated as a patient with organic brain disease and functional psychiatric illness presents with atypical symptoms, or a patient may display an unusual constellation of symptoms which don't fit into a recognizable syndrome. The uncertainty in diagnosis leads to difficulties in management, the patient suffers considerable distress and requires considerable amount of resources to be deployed. We present findings from ten cases with evidence of brain disease and symptoms of functional psychiatric illness. We explore the process of diagnosis and how it was affected by the presence of organic brain disease.

### Materials and Methods

The data were collected from patients referred to professorial unit of a tertiary referral centre for psychiatric problems in Royal Edinburgh Hospital Edinburgh.

It was a heterogeneous group of people referred to the professorial unit between 1990-94. They had histories of extensive contact with psychiatric services before referral to the professorial unit, and attracted a variety of diagnoses including schizophrenia, manic-depressive illness, Gille de la Tourette syndrome, obsessive-compulsive Disorder, Personality Disorder, Neurotic depression and temporal lobe epilepsy.

Some of these patients had prenatal complications or abnormalities in early development, which raised the possibility of brain trauma or damage. The rest had history of conditions like diabetic coma, or Cerebral malaria predating their psychiatric illness that could have given rise to brain damage.

1. Thorough review of medical notes, including information about their contact with psychiatric services before their referral to the professorial unit.
2. Review of all the information about their contact with other clinicians, which was available in the form of written communications.
3. Record of assessment by team in professorial unit including psychometric assessment on some cases.
4. Results of physical investigations employed to investigate the nature and extent of brain damage including E.E.G, C.T Scan, MRI Scan and Spet Scan.
5. Categorization of psychiatric symptoms from case notes using present state examination (P.S.E) symptom checklist.

### Results

Table-1 gives the demographics of these patients. They are a group of young people predominately males.

Table 1 Demographic profile

Period of referrals	1990-94
Sex	Male
	Female
Age range	23-35 years
Average age	26 years
Length of illness	2-12 years
Average length of illness	6.5 years

Table 2 gives severity and duration of illness. The patients had been ill for between 2-12 years and the average length of illness was 6.5 years. There was a wide variation in the number of admissions which patients have had, and the amount of time, which they had spent in inpatient care. Most of them spent considerable time in in-patient care.



Table 2. In-patient care

Duration of illness	No. of admission	In-patients (Months)
8	4	12
7	2	4
2	0	0
12	15	44
8	6	7
10	1	1
3	6	8
6	10	6
6	1	4
4	0	0

Average number of admissions: 4

Average time as in-patient 9 months

### Description of Cases

#### Case No-1

This young lady had diabetic precoma and cerebral oedema when she was eleven. This was followed by transient emotional liability and memory loss. Afterwards she had symptoms of binge eating, self-harming behavior, attacks of anxiety, sleep disturbances. Her previous diagnoses included hypothalamic syndrome, personality disorder, maturational problems along with sexual abuse. Her CT scan revealed infarcts in occipital lobe and diencephalon.

*Comment* Diagnostic difficulty because the symptoms do not fit nicely into any single category

#### Case No-2

Presumed evidence of brain pathology

Delayed milestone aloofness, lack of social skills.

*Symptoms* Scribbling on toilet rolls, reading dictionaries, excessive drinking of water, hand washing, interest in tropical snakes, hearing the hissing sounds-pseudohallucinations, walls talking to him, seeing small objects on the pavements, strange smell and taste, feeling as if in a dream.

*Previous Diagnoses* Schizophrenia, O.C.D

*Investigation* Spet Scan - Left Sided Temporal Lobe Abnormality. Normal EEG.

*Comments.* His limited ability to describe symptoms and atypical symptoms caused diagnostic difficulties. Final diagnosis of organic brain syndrome with epilepsy lead to more successful management.

#### Case No.3

*Physical Diagnosis* ---- *Psychiatric Diagnosis*  
Ataxic Diaplegia. ---- Gilles de la Tourette  
EEG Indicated Right syndrome Hemisphere Brain Damage.

#### Cases 4, 5 & 7.

They had evidence of developmental delay on history and learning disabilities on psychometry. Their diagnosis were delayed because they could not describe their symptoms clearly. Case 4 had a final diagnosis of Schizophrenia and

Cases 5 & 7 of manic depressive illness.

#### Case No 6.

He had brain damage as a result of measles and high-grade fever. His atypical symptoms lead to many diagnoses, including O.C.D, schizophrenia and Gilles de la Tourette syndrome. His M.R.I showed enlarged ventricles of brain. His response to carbamazepine was excellent.

#### Case No-8

A male with a history of communicating hydrocephalus and theco-peritoneal shunt which once was blocked and reportedly presented with atypical symptoms. There was confusion about categorization of symptoms and he attracted numerous changeovers.

#### Case No-9

Her initial presentation of typical major depressive episode was re-diagnosed to be related with epilepsy after she had fits and E.E.G abnormalities. She had history of childhood febrile convulsions.

#### Case No.10

After cerebral Malaria, became disoriented and suspicious. Spet Scan showed possible problems with perfusion in frontal lobes. He attracted numerous psychiatric diagnoses before finally he was investigated for possible brain damage.

### Discussion

This is a heterogeneous group of patients, with evidence of brain disease either on history or on investigations. Their diagnoses posed difficulties because:-

- Some of them had atypical symptoms, which could not be categorized easily into psychopathological constructs.
- The constellation of symptoms in some cases were such that they could not be recognized as single syndromes.
- Some patients had limited ability to communicate and that complicated the process of diagnosis.
- We could not infer the type of the syndrome from the nature and site of pathology.

The investigations did help but a single team looking after the patient, taking a longitudinal and holistic view of the case, sound clinical observation and discussions in team meetings were the key factors in the better understanding and management of these cases.

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As stated in the introduction, the study was carried out at the Department of Psychiatry, St. George's Hospital, London. The study consisted of 100 consecutive patients admitted to the Department of Psychiatry who had a diagnosis of Dementia of the Adult Type (DAT) according to the criteria of the World Health Organization (WHO) (1987). The patients were recruited from the Department of Psychiatry, St. George's Hospital, London, and the Department of Psychiatry, St. George's Hospital, London. The patients were recruited from the Department of Psychiatry, St. George's Hospital, London, and the Department of Psychiatry, St. George's Hospital, London.

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Table 1. Demographic characteristics of the study population.

Characteristic	Number	Percentage (%)
Age (mean)	58.5	
Sex (Male/Female)	65/35	65/35
Education (years)	12.5	
Occupation (unemployed/employed)	75/25	75/25
Duration of illness (years)	15.5	
Family history of psychiatric illness	15	15%

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Table 2. Clinical characteristics of the study population.

Characteristic	Number	Percentage (%)
Onset of illness (age)	45.5	
Duration of illness (years)	15.5	
Family history of psychiatric illness	15	15%
Occupation (unemployed/employed)	75/25	75/25
Education (years)	12.5	
Sex (Male/Female)	65/35	65/35
Age (mean)	58.5	