Differential Diagnosis in Neuropsychiatry

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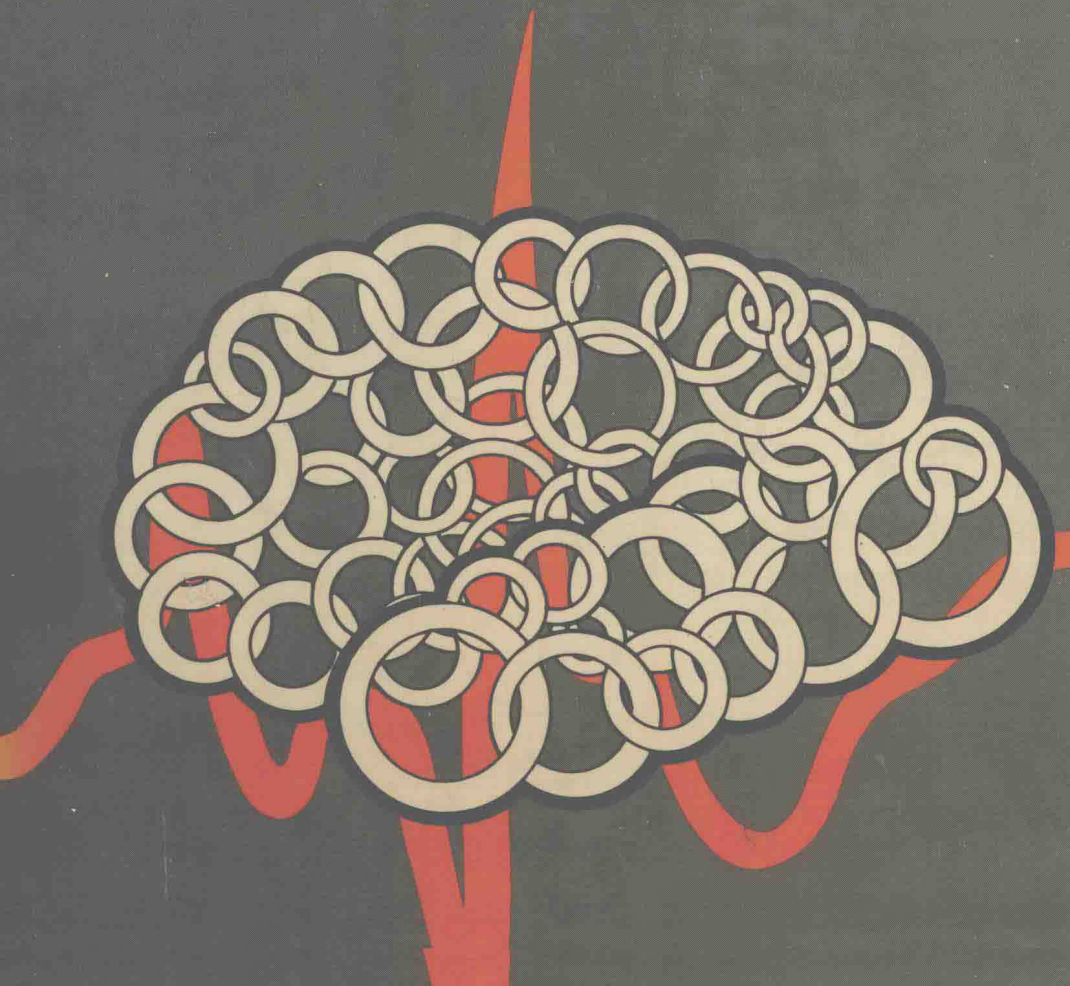

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by

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To my Father, Nasreen,
Clifford and Soraya

"Science . . . admits no sharp
boundary between knowledge and use"

(Bronowski, 1956)

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Foreword

It is with pleasure that I have accepted the offer to write a foreword to this book, and there are two fundamental reasons why I am delighted to be associated with it. First, the author has chosen to use the term 'Neuropsychiatry' in the title. Although thought by many to represent an old-fashioned branch of medicine with its practitioners being neither neurologists or psychiatrists and thus failing to do either adequately, there are others who recognize its growing potential. Thus it is a subject in a field where the clear dichotomy between the two independent disciplines has led to many conceptual problems and some disservice to patients. The disorders covered in this book represent a clinical specialty that is truly independent, in the sense of being intermediate between traditional neurology and psychiatry, requiring specialist information from both fields, but possessing in addition its own special knowledge or expertise in clinical evaluation and treatment. Although some may feel that other terms are more appropriate, for example, the popular designation of Behavioural Neurology, used widely in America, the appellation Neuropsychiatry rightly emphasizes the psychiatric component of the specialty, so often lacking from a strictly neurological approach to behaviour disorders.

Secondly, this work is essentially clinical. So often textbooks are full of elaborate descriptions of diseases, with their signs and symptoms, and fail to emphasize the essence of the clinical evaluation and differential diagnosis. Dr Roberts has dissected out for us the important elements of evaluation of patients and decision-making in these difficult conditions, providing a text that is not only informative but practical. The inclusion of case histories at the end of the main material further emphasizes some important issues, and also shows the rich and diverse nature of presentations in Neuropsychiatry.

Neuropsychiatry has a healthy future. This book, I hope, will provide further inspiration to the interested to seek further.

MICHAEL R. TRIMBLE
December, 1983

Introduction

Eight years ago the eminent British neurologist Macdonald Critchley wrote "I do not believe that neurology should be orientated too closely towards psychiatry . . . A neuropsychologist is far less of an anomaly than a neuropsychiatrist" (Critchley, 1975). Since then many have ceased to hold this view and this is substantially due to the development of new techniques for investigating brain structure and function, including Computerised Axial Tomography and, more recently, Positron Emission Tomography and Nuclear Magnetic Resonance. Such advances have helped to blur the dividing line between neurology and psychiatry, and prompted Janice R. Stevens to write recently "neuropsychiatry . . . is a specialty whose time has come, and for which appropriate training programmes are urgently needed by both psychiatrists and neurologists" (Stevens, 1982).

This book is intended as a contribution towards this field for those training in psychiatry and neurology, and other medical and non-medical health workers who are involved in the large area of medicine where neurology, neurosurgery, neuropsychology and psychiatry overlap. The first six chapters are concerned with the examination and investigation of the neuropsychiatric patient. Chapters 7 and 16 deal with certain diagnostic problem areas that are commonly encountered in neuropsychiatry. Much of the material covered in this book deals with those questions raised by interested undergraduate and postgraduate students, during teaching sessions. An attempt is made to maintain a practical orientation as far as possible. With this intention in mind Chapter 17 consists of a series of brief case histories that are selected in order to emphasise or illuminate certain points from the previous chapters.

In addition to the references cited in the text, certain 'source" books have been used, which can be used for further elaboration on a particular topic. The books used are Filskov and Boll (1981) and Walsh (1978), for neuropsychology; Lishman (1978) and Trimble (1981a) for neuropsychiatry; Beeson and McDermott (1971) and Hart (1979), for medicine; Merritt (1979) and the Handbook of Clinical Neurology series (edited by P. J. Vinken and G. W. Bruyn), for neurology; and Nicholi (1978) and Sim (1974), for psychiatry.

Contents

CHAPTER 1

The Neuropsychiatric History

1.1 INTRODUCTION

As the physician's time is limited it is necessary for him to direct his questions in such a way as to get the maximum relevant information from the patient and any other informants available within this limited period. Though flexibility is needed during the interview, the following outline is suggested as a general guide to the kind of information that is most relevant in the assessment of a neuropsychiatric problem.

The importance, provided the patient does not object, of consulting a reliable second source, cannot be over-emphasised. This "secondary" informant may be able to provide a more objective view of the development of the patient's illness, identify any errors or omissions in the patient's history, and provide an assessment of the patient's premorbid personality. Though there may have been a change in the patient's personality since his illness began, this may not be evident from his history for reasons such as a lack of motivation, a defective memory, or an impairment in his ability to compare his current and premorbid levels of functioning. Such difficulties are commonly encountered in patients with organic brain disease. If available the patient's mother should be interviewed as she is usually the best source of information about the patient's early life, e.g. prenatal factors, birth details and developmental milestones.

The steps involved and the areas that should be enquired about in the evaluation of the neuropsychiatric patient are listed in Table 1.1. The rest of this chapter is concerned with that information which is most likely to be relevant to such cases. Though it is not possible to be totally comprehensive in the space allowed, an attempt will be made to clarify the significance of some of this data.

While evaluating the patient it is helpful to bear in mind the different disorders that can cause, or be associated with, neuropsychiatric illness. As this involves an extensive differential diagnosis, many of these disorders have been classified, as shown in Table 1.2, in such a manner as to facilitate their recall.

Table 1.1 The neuropsychiatric history

Basic data	Name, age, country of origin
	Presenting complaints
History of current illness	
Family history	Neurological and psychiatric disorders (including deaths at an early age, epilepsy, mental retardation, metabolic disorders)
Antenatal events	Foetal exposure to alcohol, drugs, toxins, infections or physical agents
	Complications during pregnancy
Birth	Gestational age and weight, complications of delivery
Early development	Developmental milestones, febrile convulsions, other neurological events
Personal development	Neurotic traits, e.g. school phobia
	Interpersonal relationships, academic performance at school, antisocial behaviour
Occupational history	
Psychosexual history	Females (menarche, menstrual cycle, abortions)
	Males (onset of shaving, masturbation, voice breaking)
Past medical history	Childhood illness(es)
	Head injury, encephalitis, meningitis, migraine, epilepsy
	Previous surgery (especially neurosurgery)
Previous psychiatric history	Alcohol, drug abuse, suicide attempts
Premorbid personality	
Forensic history	Litigation pending
Current home situation	

1.2 BASIC DATA

Valuable information may be provided by the patient's behaviour and the presenting complaints he makes during his initial contact with the physician. How did he come to the hospital? What is his attitude to the doctor? Why does he think he is here? Even at this early stage in the interview it is possible to surmise certain things about the patient, e.g. if he can find his own way to the hospital and keep his appointment at the correct time and place, this tells us something about his memory, motivation and topographical orientation. A patient with early dementia is often brought to the hospital by an exasperated spouse and is frequently vague about his problems. Errors may occur if he is unaccompanied, as in the early stages of cognitive decline the patient's deficits may not be obvious to anyone meeting him for the first time.

The common causes of any particular neuropsychiatric disorder will vary with the patient's age. In the young adult an acute onset of a psychotic illness will often be due to illicit drug ingestion or acute schizophrenia. In the elderly such behaviour, appearing for the first time, is more likely to be due to an affective disorder or delirium. Though common disorders should be considered initially

Table 1.2 The differential diagnosis of neuropsychiatric disorders

Alcohol and other toxins	Lead, manganese, thallium, carbon disulphide
Blood vessel disease	Intracranial (aneurysm, infarction), extracranial (cardiac disease, hypertension, carotid stenosis)
Collagen disorders	Systemic lupus erythematosus, temporal arteritis
Congenital and inherited	Huntington's chorea, dystrophia myotonica, porphyria, Marfan's syndrome, tuberose sclerosis, Wilson's disease, XYY, XXY
Degenerative	Dementia of Alzheimer's type, Pick's dementia, normal pressure hydrocephalus, Parkinson's disease, multiple sclerosis, Creutzfeldt–Jacob's disease
Drugs	Hallucinogen, stimulant, neuroleptic, anti-depressant, anti-convulsant, sedative
Endocrine, metabolic, vitamin disorder	Disorder of thyroid, parathyroid, adrenal, pituitary; hypoglycaemia, liver disease; deficiency of B_{12}, thiamine, folate, or nicotine acid
Epilepsy	Ictal, inter-ictal, post-ictal, peri-ictal
Functional	Neurosis, psychosis, personality disorder
Growth	Carcinoma (primary, secondary, remote effect), subdural haematoma
Hypoxia	Cardiac or respiratory failure
Idiopathic	
Injury or post-operative	Head injury (open or closed), psychosurgery
Infection	Abscess, encephalitis (encephalitis lethargica, herpes simplex, rabies)

when assessing a patient, certain uncommon neurological disorders, e.g. Wilson's disease, can present with prominent psychiatric symptoms, and may also show a predilection for certain age groups. It is important to bear them in mind because they are often potentially treatable and, if they are genetically determined, their diagnosis may have implications for other family members who are at risk. Sternleib and Scheinberg (1968) studied patients with *Wilson's disease*, an inherited abnormality of copper metabolism resulting in damage due to the deposition of excess copper mainly in the central nervous system and liver. They found that 7 out of 8 of the patients' asymptomatic siblings who had a low serum caeruloplasmin (the globulin necessary for binding copper) and an elevated level of hepatic copper, subsequently developed the clinical features of the disorder on follow-up. This contrasted with the progress of another 40 siblings who had the same biochemical abnormalities and who were treated with penicillamine and a low-copper diet. The latter all remained asymptomatic during the same follow-up period.

In certain cases the patient's racial background or his country of origin may indicate that he is at an increased risk of developing a particular disorder. In such cases the predisposing factors may be genetic or environmental. *Genetic predisposition* is important in relation to Huntington's chorea (particularly common in the Moray Firth area of Scotland, and Tasmania), porphyria variegata (South Africa), and dystonia musculorum deformans (Ashkenazi