
This book is the first in a series on neurochemistry and neuropharmacology. The next three volumes are to discuss iron metabolism in the brain, depression and the neurochemistry of alcohol. Each book will be for a rather specialised audience and the current volume which is excellent will be read and bought by all those interested in pterins, as there has previously been a dearth of books on this subject, particularly one that combines both basic and clinical aspects. For clinicians perhaps only those with an interest in neurochemistry, particularly that of dementia, Parkinsonism and dystonia, will have any great interest here although paediatric neurologists seeing patients with phenylketonuria or its rarer variants will wish to read at least some of the chapters.

Unconjugated pterins were first discovered a hundred years ago as a new pigment in butterfly wings. In 1963 tetrahydrobipterin (BH₄) was discovered to be the naturally occurring essential cofactor for phenylalanine hydroxylase. Later studies demonstrated its key position in the regulation of the synthesis of serotonin and the catecholamines and led to the current interest in this substance. Subsequently rare forms of hyperphenylalaninemia were discovered that are separate from classical phenylketonuria and are due to faults that led to under-availability of BH₄. These include a deficiency of the enzyme crucial to salvaging the cofactor after it has been oxidised during hydroxylation activity and two forms where the synthesis of BH₄ is deficient. The biochemical and clinical consequences of these different forms of hyperphenylalaninemia are discussed and are of importance as their current treatment is somewhat different and may become very different in the future. In neurological disease of adult life the role of BH₄ is somewhat more speculative but the data concerning its abnormalities in other diseases, particularly dementia, Parkinsonism, generalised dystonia, lead and aluminium poisoning, depression, ageing and oestrogen therapy are all discussed critically. The bulk of the book discusses the chemistry, regulation of biosynthesis and distribution of pterins and this will chiefly be of interest to neurochemists who I am sure would all speak very highly of the chapters, their authors, and the general readability of their contributions.

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