Monoamine Oxidase and Its Selective Inhibitors

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H. Beckmann, Mannheim; P. Riederer, Wien

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Preface

The great interest in MAO inhibitors awakened by introducing
them into the treatment of depression (G.E. Crane, N. Kline), Parkinson's disease (W. Birkmayer), as well as the possible implications of MAO for schizophrenia (D.L. Murphy, R.J. Wyatt) has been overshadowed by these drugs' serious side effects. In fact, in the late sixties and the early seventies, MAO research was rather rare. Joseph Knoll worked on the pharmacology of (-)deprenyl; Johnston developed the concept of the MAO-A and MAO-B subtypes, and Merton Sandler's group described multiple forms of MAO in the human brain. Again, it took some years before a fortunate constellation consisting of Joseph Knoll ? Moussa Youdim ? Peter Riederer ? Walther Birkmayer led to the first clinical application of (-)-deprenyl for Parkinson's disease. Confirmation of this trial by several research groups, and the discovery of dopamine to be an excellent B-substrate in man (Merton Sandler), stimulated research into MAO once again. A number of new compounds have been tested for their possible clinical application, and the 'dernier cri' are selective, reversible inhibitors. The new approaches have led to an increasing frequency of MAO symposia during the past years. Why then another such meeting? We are of the opinion that theoretical progress in MAO research must have a clinical correlate, and we expect a stimulating dialogue between clinicians who have experience with these new drugs and research workers who are veterans in the field.

We thank our host, Prof. Dr. Dr. H. Hfner, for holding this symposium in the Zentralinstitut fr Seelische Gesundheit, Mannheim. We are also very grateful to Mrs. I. Treudler and Rahm-Pharma for the excellent organization of this international meeting.

Helmut Beckmann,
Peter Riederer

List of Abbreviations

AMP Adenosine monophosphate
ATP Adenosine triphosphate
BSA Bovine serum albumin
COMT Catechol-O-methyltransferase
CRAO Clorgyline-resistant amine oxidase
CSF Cerebrospinal fluid
DA Dopamine
DA-S04 Dopamine-3-0-sulfate
DOPAC 3,4-dihydroxyphenylacetic
acid
DST Dexamethasone suppression test
ECD Electron-capture detector
EPQ Eysenck Personality Questionnaire
FAD Flavin adenine dinucleotide
FMN Flavin mononucleotide
FPI Freiburger Personlichkeitsinventar
GOT Glutamic oxaloacetic transaminase
GPT Glutamic pyruvic transaminase
?GT ?-Glutamyl transpeptidase
HDRS Hamilton depression rating scale
5-HIAA 5-Hydroxyindoleacetic acid
HPLC High-pressure liquid chromatography
S-HT S-Hydroxytryptamine = serotonin
L-S-HTP L-S-Hydroxytryptophan (e)
HVA Homovanillic acid
MAO Monoamine oxidase
MAO! Monoamine oxidase inhibitor
MEK Methylethylketone
MHPG 3-Methoxy,4-hydroxyphenylglycol
MMPI Minnesota Multiphasic Personality Inventory
MOPEC-S04 3-Methoxy,4-hydroxyphenylethleneglycol sulfate
NA Noradrenaline
NE Norepinephrine
PB Blood pressure
PE Phenylephrine
PEA Phenylethylamine
PFBOA Pentafluorobenzylamine hydrochloride
PRP Platelet-rich plasma
RDC Research Diagnostic Criteria
SEM Standard error
TCP Tranylcypromine
TRY L-Tryptophan( e)
TY Tyramine