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**Studies of Brain Metabolism
in Psychiatric Patients:
Can Standards Be Drawn?**

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With 17 Figures

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Preface

When, in the Seventies, Ingvar and Franzén found a decrease of the cerebral blood flow in the prefrontal regions of chronic schizophrenic patients, it became obvious that functional brain imaging techniques would contribute to the evaluation of brain regional activity during psychiatric illnesses. In addition, these techniques afforded the possibility to study directly what influence psychiatric disorders and their treatments might exert on the brain.

During the following years, several European and American research groups tried to replicate this finding in other schizophrenic patients, measuring cerebral regional glucose consumption with positron emission tomography (PET). It was confirmed by some groups, but not by all. The reasons put forth to explain these heterogeneous results concerned the diversity of PET cameras used, data analysis procedures, and the variety of diagnostic criteria and methods used to evaluate the symptomatology.

By 1990, the number of European groups involved in studies of psychiatric patients had dramatically increased (more than 10); most PET centers willing to study brain metabolism, but each tending to use its own methodology. This situation rendered it necessary to set up a minimum degree of standardization of the data, in order to preserve the “comparability” of information from different centers.

This special issue of the *Journal of Neural Transmission* presents the works by several European psychiatrists and scientists in the field of PET, gathered together in Orsay (France, December 1990), under the aegis of the “EEC Concerted Action on PET Investigations of Cellular Regeneration and Degeneration”. It includes contributions focussing on the present states of research in this field, and on the questions and problems raised by the standardization of the measures in the clinical and therapeutical domains, but it also covers ligand modelling, data analysis, anatomical definition of the brain regions studied, and cerebral activation during experimentally controlled mental activities. This issue should be a useful source of information for all those interested in brain imaging.

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