Foreword

The role of somatostatin and dopamine receptors as molecular targets for the treatment of patients with pituitary adenomas, using somatostatin analogs such as octreotide and lanreotide and dopamine agonists such as bromocriptine, quinagolide and cabergoline, is well established. However, in recent years, the knowledge of the expression of subtypes of somatostatin and dopamine receptors in pituitary adenomas, as well as of the co-expression of both types of G-protein coupled receptors in tumor cells, has increased considerably. Moreover, recent insights suggest a functional interaction of dopamine and somatostatin receptors, when co-expressed in the same cells, resulting in enhanced activity. This effect has been suggested to occur via dimerization of these heterologous G-protein coupled receptors. In addition to these observations, there has been renewed interest in the use of cabergoline in the treatment of patients with pituitary adenomas, novel somatostatin analogs that bind with high affinity to multiple somatostatin receptor subtypes have been generated and recently a completely novel class of molecules, the so-called chimeric somatostatin–dopamine molecules (dopastatins), has been developed. These advances have revealed new perspectives for the medical treatment of acromegalic patients poorly responsive to the current clinically available somatostatin analogs, but also for the medical treatment of patients with Cushing’s disease and patients with clinically nonfunctioning pituitary adenomas.

On November 9th, 2005, a symposium entitled ‘Novel role of somatostatin and dopamine receptors in the medical treatment of pituitary adenomas’ was held at the Erasmus MC in Rotterdam, The Netherlands. The aim of the symposium was to summarize the novel insights in somatostatin and dopamine receptor physiology, and to bring these new insights into perspective for the medical treatment of patients with pituitary adenomas. This supplement contains the updated contributions of the speakers at the symposium. We hope that these proceedings will be informative for both clinicians and basic researchers working in this exciting field.

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