Clinical conditions that need diagnostic screening of adult GH deficiency

Dr. Ezio Ghigo

Division of Endocrinology and Metabolism, Department of Internal Medicine, University of Turin, Italy

Hypopituitarism and GH deficiency (GHD) in adults should be suspected within an appropriate clinical context and diagnosed bio-chemically by provocative testing. Basically, all patients with primary hypothalamic-pituitary diseases before and after treatments (neurosurgery and/or radiotherapy and/or medical therapy) are at obvious more than high risk for hypopituitarism (more than 80% of severe GH deficiency). Very high risk applies also to patients who had been diagnosed as having congenital or acquired GHD in childhood (approximately between 30 and 50% of severe GHD after retesting). Besides these conditions, other common pathological conditions of the Central Nervous System (CNS), such as traumatic brain injury (TBI) or subarachnoid haemorrhage (SAH) or primary brain tumours (BT) could be considered at risk to develop hypopituitarism including GH Deficiency (GHD) that is usually the first and the commonest sign of pituitary impairment. Despite this risk the clinical management of these conditions does not routinely include neuroendocrine evaluations. Recent studies suggest that also in patients with primary empty sella are at high risk for GHD, despite the common assumption is that empty sella is associated to preserved pituitary function. Unexpectedly, even in patients with primary hyperparathyroidism more or less severe GH insufficiency has been demonstrated; it would further impair bone metabolism. In conclusion, besides almost obvious impairment in patients with primary hypothalamus-pituitary diseases, somatotroph function in adulthood seems severely impaired in a considerable number of frequent clinical conditions that were non considered at risk for hypopituitarism before. The diagnostic work-up in these conditions is therefore mandatory in order to disclose the existence of the pituitary deficit including GHD.