GH responsiveness to combined GH-releasing hormone and arginine administration in obese patients with fibromyalgia syndrome

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Reportedly, fibromyalgia (FM) is frequently associated with reduced IGF-1 levels and GH hyporesponsiveness to different GH stimulation tests. Since there is a high prevalence of obesity in FM, and obesity itself is characterized by hyposomatotropism, the aim of this study was to assess IGF-1 levels and GH responsiveness in sixteen severely obese women suffering from FM, who, subdivided into two subgroups on the basis of their age-dependent IGF-1 values (> or <−2 SDS), underwent the combined GHRH plus arginine test. Four out of 16 obese women with FM (25%) had low IGF-1 SDS values, 2 cases of this subgroup (12.5%) failing also to normally respond to the test. Among patients with normal GH responses, 4 showed a delayed GH peak. The subgroup with low IGF-1 SDS values had higher BMI than that with normal IGF-1 SDS. GH peak and area under the curve were not correlated with CRP, ESR, or tender point score, while significant correlations were found with fat-free mass and fat mass. In conclusion, this study shows the existence of a high prevalence of GH-IGF-1 dysfunction in patients with both FM and obesity, presumably as a consequence of the obese rather than fibromyalgic condition.