

## Addendum (re Leptin)

Many regulatory sites for leptin are found within the ob gene promoter, including cyclic AMP and glucocorticoid response elements, as well as loci for CCATT/enhancer and SP-1 binding.<sup>24,25</sup> Thiazolidenediones reduce leptin mRNA in adipocyte 3T3-L1 cells through negative PPAR effect at the leptin promoter.<sup>26</sup> Peripheral leptin administration activates suppression of cytokine signaling-3 (SOCS-3) which is co-expressed in hypothalamic nuclei with long-form leptin receptors. Increased SOCS-3 expression in vitro has been shown to blunt leptin receptor signal transduction by inhibiting JAK activity. SH2-containing phosphatase 2 (SHP-2) also blocks STAT-3 mediated leptin transcription. Moreover leptin is negatively regulated by the sympathetic nervous system via beta-2 and beta-3 catecholaminergic input at the adipocyte. The increased sympathetic enervation in visceral fat may thus partly explain its reduced leptin content compared to subcutaneous fat tissue. Infusion of isoprenaline or epinephrine in man acutely suppresses leptin release, as does cold exposure. Growth hormone, thyroid hormone, and melatonin have also been shown to decrease leptin secretion.

## Abstracts from the Literature

### Celiac Disease in Children with Autoimmune Thyroid Disease

This study was designed to test for the presence of celiac disease among children with autoimmune thyroid disease (ATD). Ninety patients (78 females) ages 1.8 to 17.3 years with ATD were studied; 20 of them had Graves' disease, and 16 had other associated conditions i.e. alopecia (4), vitiligo (2), juvenile rheumatoid arthritis (2), autoimmune hepatitis (2), Down's syndrome (1) and other miscellaneous autoimmune alterations (5). Screening for IgA antiendomysium antibodies (EMA) and HLA typing for Class I and II DQA1 and DQA2 heterodimers were done. There were 7 patients with positive EMA; an intestinal biopsy in these patients revealed intestinal villi alterations, with partial or total atrophy, crypt hyperplasia and intraepithelial lymphocytes. Clinically, one of the celiac disease patients had iron deficiency, one had diarrhea, and one had short stature, while the others were asymptomatic. A significant positive correlation was present for celiac-susceptible heterodimers in the patients with celiac disease. The authors concluded that screening for celiac disease should be done on all patients with ATD.

Larizza D, et al. *J Pediatr* 2001;139:738-740.

**Editor's Comments:** *This report is one more in the recent literature documenting the presence of celiac disease among patients with endocrinopathies. The prevalence of celiac disease in patients with ATD was 7.7% which is higher than that observed in other studies of adults with ATD, and of course much higher than the 1% reported in normal populations.<sup>1-3</sup> In Vol 17 No 2 of Growth Genetics & Hormones, I abstracted and commented upon the article describing the presence of celiac disease in 4.6% of children with type I diabetes.<sup>4</sup> Celiac disease was a significant factor in the development of hypoglycemia complicating the course of the diabetic illness. The presence of celiac disease in the patients in this study, as well as those in other reports, was without clinical evidence of malabsorption and the patients were largely asymptomatic.*

*Nonetheless, it has been suggested that the presence of unidentified celiac disease could play a role in the development of autoimmune disorders, and the prompt diagnosis and treatment of this disease could prevent the onset of other alterations.<sup>5</sup> The availability of an accurate, sensitive and specific test (IgA antiendomysium antibodies) to screen for celiac disease should not be overlooked by Pediatric Endocrinologists who in my opinion should test all patients with autoimmune endocrine disorders regularly for antibodies reflecting the presence of celiac disease.*

Fima Lifshitz, MD

#### References

1. Valleluzi F, et al. *Am J Gastroenterol* 1998;93:976-979.
2. Valentino R, et al. *Horm Res* 1999;41:124-127.
3. Carlsson AK, et al. *Pediatrics* 2001;107:42-45.
4. Mohn A, et al. *J Pediatr Gastroenterol Nutr* 2001; 32:37-40.
5. Ventura A, et al. *Gastroenterology* 1999;117:297-303.

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