four patients with the Farmos or the Boot-Celltech assay, in both of which mouse serum or mouse immunoglobulins are included. The Behring assay, which includes rat serum, showed no interference with the three sera that over-reacted in the Serono assay. However, the rat serum was unable to neutralize immunoglobulin-binding substances in the serum of patient 4.

Two-site IRMA for TSH in serum represent major progress in diagnosis of thyroid dysfunction, but one must be aware of their inherent pitfalls. Non-immune serum or immunoglobulins from at least one of the species used to raise the assay antibodies should always be included in the assay, and the manufacturers of the kits should include information about the kind of neutralizing medium being used. However, the addition of nonimmune serum or immunoglobulins will occasionally fail to eliminate the interference. If a falsely high TSH value is suspected in spite of the inclusion of an appropriate neutralizing medium in the assay, I recommend measuring the TSH by one or more different assays.

Disturbed Melatonin Secretion in Chronic Alcoholism and Withdrawal

To the Editor:

The pineal gland is increasingly regarded as an endocrine organ of clinical importance (1-3). Assay of the principal pineal factor, melatonin, is the best currently available peripheral index of pineal function in humans (4), and many reports document abnormalities in melatonin secretion within several clinical categories, most notably the affective disorders (5) and certain neoplastic diseases (1, 2, 6). Within a wider investigation of useful neuroendocrine markers of chronic alcoholism, we studied 28 male chronic alcoholics (age range 23-62 y, mean 43.8 y) for abnormal pineal function by screening for afternoon melatonin secretion at 15:00 hours, a time when normal melatonin secretion is undetectable by most current radioimmunoassays (2, 3). All patients had a history of average daily ethanol intake of >100 g for 7-41 years. Unequivocal alcohol dependence was recorded on admission, and the alcohol withdrawal syndrome was later observed in all patients. Melatonin was assayed by direct radioimmunoassay (7) of plasma collected at 15:00 hours on admission and after conventional therapy.

Melatonin assay revealed undetectable (<5 ng/L) pre- and post-treatment concentrations in 15 (53.6%) of the patients, but eight patients (28.6%) had detectable concentrations before (13 ±1.6 ng/L, SEM) and subsequent (32 ±12.8 ng/L, SEM) to therapy. A further three (10.7%) had undetectable melatonin before therapy and detectable concentrations (13 ±2.6 ng/L, SEM) after therapy, and two patients (7.1%) had detectable concentrations (22 ±4.2 ng/L, SEM) before and undetectable after treatment.

The lack of a clear trend in our results precludes any definitive statements on pineal function in our patients. The observed changes in plasma melatonin status after alcohol withdrawal cannot be directly attributed to drug therapy or hepatic status because 80% of the individuals in the study had above-normal γ-glutamyltransferase (EC 2.3.2.2) activity (57-1140 U/L) and all were treated with the same drug, chlorpromazine. In view of reports indicating a possible diagnostic potential of melatonin assay, melatonin secretion in acute and chronic alcoholism needs to be carefully evaluated before its use in this regard or as a marker of altered noradrenergic function during alcoholism can be confidently prescribed.

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References


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A Comment on the “Albumin Effect” in Analog Free-Thyroxin Determinations

To the Editor:

Several reports (1-5) concern the dependency on albumin concentration of analog free-thyroxin (FT₄) assay kits (especially Amerlex FT₄). They con-

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