



Editorial

Thoughts of the Season

Medical literature is a very impersonal means of communication. In our scientific objectivity we go out of our way to be not only first-person-plural but preferably inanimate. This is a distinct loss, for the warmth of the personal word captures the spirit as well as the sense of the message.

These reflections seem particularly apt now at the Holiday Season. Over the centuries, the fortnight ending with the start of the new year has been a period of reflection, appreciation, and resolution. Among other things, we suddenly communicate (by sending attractively decorated cards to people we may know only slightly), because we want all our friends and acquaintances to know that we are think-

ing of them—and that we are glad to have them in our ken.

It is in this spirit that we want to break the cool objectivity of medical publications and reach out to our readers and tell them how much we appreciate their interest in this JOURNAL. Through letters and personal conversations we know that many have a warm spot in their hearts for the *A. J. C. N.* We bask in that glow. And we of the editorial and publishing group want to take this means of speaking personally to each of our readers and sincerely wishing them a most happy Holiday, and a New Year of peace, pleasure, and plenty.

—S. O. W.

The Endocrine Glands and Nutrition

That ultimate in malnutrition—anorexia nervosa—so closely resembles hypopituitary “cachexia” (Simmonds’ disease) that elaborate clinical and laboratory techniques are needed to distinguish them,¹ if, indeed, they are distinguishable. This nosological problem stems from the interrelationship between nutrition and the endocrine glands.

In an excellent review, Zubirán and Gómez-Mont² described their study of 529 adults suffering from chronic malnutrition in their hospital in Mexico City. Involution and atrophic changes in various endocrine glands were seen in the material obtained from 195 autopsies.

Malnutrition may be said to have a significant direct effect on the pituitary; and the resulting decrease in function leads to disturb-

ances of other endocrine glands. The significant feature of this “malnutrition hypopituitarism” is that it is reversible by nutritional rehabilitation.^{1,2} Thus, as a result of refeeding, a patient with “anorexia nervosa” gained 23 pounds. During this period there was a rise in radioiodine uptake, basal metabolic rate, serum cholesterol level, and in the excretion of 17-ketosteroids, corticoids, estrogens, and gonadotropins in the urine.

It is interesting that decreased gonadal function is usually the earliest endocrine manifestation of significant inanition. In fact, a large literature has grown up correlating amenorrhea and low urinary estrogen and gonadotropin excretion with malnutrition. The ovarian failure is believed to be secondary to hypopituitarism.

During nutritional recovery, on the other hand, estrogen excretion is usually increased. This is a transitory phenomenon, but sometimes may be of great magnitude. Significant increases in gonadotropin excretion were also observed during recovery,² and seemed to precede the hyperestrogenism. Because of the temporal relationship between these events and the re-establishment of ovarian function in women or the development of gynecomastia in men, it would seem that these changes are a phase in the rise of the pituitary-gonad axis to a higher level of activity.

Recovery by refeeding also helps to distinguish "functional" hypopituitarism, if you will, from "organic" hypopituitarism. Conversely, there is a notable lack of response to hormonal replacement therapy in malnutrition hypopituitarism. In fact, Perloff *et al.*¹ suggest that hormone therapy may be not only "of no specific value but may actually be contraindicated, as the decrease in endocrine ac-

tivity appears to be an adaptive mechanism for the conservation of energy necessitated by the reduced caloric intake."

Still another illuminating aspect of this interrelationship is mentioned by Zubirán.² Care must be taken in evaluating the results of certain animal experiments, in which effects ascribed to endocrine manipulations may result from the accompanying nutritional disturbance, and, contrariwise, nutritional experimentation must consider secondary endocrinopathies.

—S. O. WAIFE, M.D.

REFERENCES

1. PERLOFF, W. H. LASCHÉ, E. M. NODINE, J. H. SCHNEEBERG, N. G., and VIEILLARD, C. B.: The starvation state and functional hypopituitarism. *J. A. M. A.* 155: 1307, 1954.
2. ZUBIRÁN, S., and GÓMEZ-MONT, F.: Endocrine disturbances in chronic human malnutrition. *Vitamins and Hormones* 11: 97, 1953.

In Defense of Teleology

"It is evident that our whole unifying concept is based upon teleologic thought, that is, the principle of purposeful causality. It is difficult to understand why, among representatives of the exact sciences, and even among biologists and physicians, there is so much resistance to the use of teleologic arguments. Still we must admit that many of the most outstanding investigators of our time believe that one can—and indeed should—merely register scientific observations, refraining from all considerations of causality. I cannot follow such arguments. To my mind the sensation of causality is inherent in the structure of the human brain. Understanding itself is but the feeling of having securely attached a thing to our treasury of known facts, by solid bonds of obligatory sequences. . . .

"We sense a Creator, mainly because we and our surroundings strike us as being 'complex' and, during the short life-span of man, he sees no really complex structure being built up by chance, without the catalytic influence of a Maker. Why doubt, however, that in the span of ages, the organizing effect of a centralizing teleology could eventually build up awe-inspiring complexities, such as a planet, a tree or even ourselves? . . .

"Teleologic thought does not necessarily have to lean upon a purposeful Creator. . . . What we must clearly realize in biology is that teleologic analysis is applicable to any unit of creation, even after it is made.

"Science cannot and should not attempt to embrace the purpose of the original Creator, but it can and constantly must examine teleologic motives in the objects of creation, since only this can lead to understanding, as opposed to a mere accumulation of unintelligible facts."

—Hans Selye. *Texas Reports on Biology and Medicine* 12: 415, 419, 1954.