

in diabetes mellitus are totally unrelated to the development or progression of alterations in capillary structure. A similar conclusion would have to be drawn with regard to data available from studies of experimental diabetes in animals, particularly in view of recent preliminary reports of the production of retinal capillary microaneurysms in rats with chronic streptozotocin diabetes.¹⁴

From this cursory review it would appear that at the present time the physician treating adult-onset diabetes has a clear responsibility to prevent symptomatic hyperglycemia; the advantages of maintaining a normal or nearly normal range of blood glucose fluctuations remain to be evaluated but cannot be excluded. The choice of therapeutic aims must be a conscious decision by the physician, and one in which an informed patient participates. The patient's age, the presence of other serious medical problems, the presence or absence of specific clinical complications, and the patient's motivation are practical considerations.

The Importance of Weight Control

Whether the physician believes that the prevention of symptomatic hyperglycemia is an adequate goal in a given patient, or whether a strenuous effort is undertaken to achieve a normalization of glucose metabolism, the relationship between increased body weight and hyperglycemia that so frequently exists in adult-onset diabetes must be considered. In the UGDP study the adult-onset diabetics averaged +33 per cent of ideal body weight at the outset.¹⁵ It has been observed repeatedly that many adult-onset diabetics will exhibit improvement in their degree of hyperglycemia if a significant reduction in body weight can be achieved. (Whether this is due to weight reduction per se or to a decrease in carbohydrate intake remains to be determined.^{16, 17}) The UGDP studies provide an indication of the effectiveness of present efforts to achieve weight reduction and the resultant improvement in diabetic "control." All the patient groups in the UGDP study exhibited a fall in mean body weight at the time of the first follow-up visit. However, the maximum decrease for any group was 4.2 lbs (less than 3 per cent of initial mean weight), which was observed in the patients treated with diet plus a placebo. In this group the early weight loss was not sustained, and the mean body weight remained close to 98 per cent of the initial weight throughout the subsequent four plus years. The initial weight loss was associated with a fall in both the mean fasting blood glucose level and in the glucose level observed one hour after the ingestion of 50 gm. of glucose. Subsequently both of these parameters of "control" rose progressively throughout the remainder of the study. Although the patients receiving tolbutamide or insulin (in fixed or varying dosages) also received dietary instruction, their initial weight loss was less than that observed in the placebo group, and no further reduction in mean body weight was observed during the subsequent four years. These data suggest that current efforts to achieve weight reduction in adult-onset diabetics are ineffective, at least as currently practiced in medical outpatient clinics.

The difficulties encountered in achieving weight reduction in chronically