individual basis, more chemical diabetics seem to respond better to a combination of diet and chlorpropamide therapy than to diet alone.

Both sulfonylureas and biguanides have been known to lower serum cholesterol and triglycerides (*5, 10, 17–20*). In the present study the number of subjects with normal fasting cholesterol or triglycerides was not significantly changed when the number in the initial test was compared with each of the subsequent test by chi square analysis. A comparison of the mean fasting values in the initial test with each of the subsequent test by paired 't' analysis also did not show any difference. The reason for the discordance is not apparent.

The patterns of change in serum triglycerides and cholesterol during the oral glucose tolerance test are similar to those of normal subjects (Unpublished data). The early increase in serum triglycerides may be due to two possible causes: (a) increased endogenous triglyceride synthesis from fatty acids which are not utilized as fuel when glucose is available and insulin is present and (b) conversion of glucose to triglycerides. A later decrease in serum triglycerides has been reported previously (*39*). This is most likely due to decreased substrate (fatty acids) availability due to decreased lipolysis in adipose tissue and to increased triglyceride removal secondary to an increase in lipoprotein lipase (*40*). A decrease in serum cholesterol following prolonged glucose feeding has also bee recently reported (*41*). This study demonstrates the acuteness of the effect. The mechanism responsible for the change remains to be elucidated.

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REFERENCES

(*1*) Fajans, S. S. and Conn, J. W.: Tolbutamide-induced improvement in carbohydrate tolerance of young people with mild diabetes mellitus. Diabetes 9:38–8, 1960.

(*2*) Wilansky, D. L. and Shochat, G.: The course of latent diabetes, Ann. N. Y. Acad. Sci. 148:848–58, 1968.

(*3*) Engelhardt, H. T. and Vecchio, T. J.: The long-term effect of tolbutamide on glucose tolerance in adult, asymptomatic, latent diabetes. Metabolism 14: 885–90, 1965.

(*4*) Lauvaux, J. P., Mandart, G., Heymans, G. and Ooms, H. A.: Effect of long-term tolbutamide treatment on glucose tolerance and insulin secretion in maturity-onset diabetes without obesity. Horm. Met. Res. 4:58–62, 1972.

(*5*) Arky, R. A. and Abramson, E. A.: Insulin response to glucose in the presence of oral hypoglycemics. Ann. N. Y. Acad. Sci. 148:768–77, 1968.

(*6*) Sheldon, J., Taylor, K. W. and Anderson, J.: The effects of long-term acetohexamide treatment on pancreatic islet cell function in maturity onset diabetes. Metabolism 15:874–83, 1966.

(*7*) Buchanan, K. D. and McKiddie, M. T.: Plasma insulin levels as a guide to diabetic therapy. Scottish Med. J. 12:1–5, 1967.

(*8*) Turtle, J. R.: Patterns of glucose and insulin secretory response following diet and tolazamide therapy in diabetes. Brit. Med. J. 3:606–10, 1970.

(*9*) Reaven, G. and Dray, J.: Effect of chlorpropamide in serum glucose and immunoreactive insulin concentrations in patients with maturity-onset diabetes mellitus. Diabetes 16:487–92, 1967.

(*10*) Feldman, J. M. and Lebovitz, H. E.: Endocrine and metabolic effects of glybenclamide. Evidence for an extrapancreatic mechanism of action. Diabetes 20:745–55, 1971.

(*11*) Davidson, M., Lewis, A. A. G., DeMowbray, R. R., Boucher, B. J., Oakley, N. W., Nabarro, J. D. N., Ginsburg, J. and Beaconsfield, P.: Metabolic and clinical effects of Glibenclamide. Lancet 1:57–61, 1970.

(*12*) Anderson, J., Coulson, R., Grassick, B. D. M., Morris, B. A., Thomas, W. D. Tomlison, R. W. S., and Woodroffe, F.: Clinical and metabolic study in diabetic patients treated with glibenclamide. Brit. Med. J. 2:568–70, 1970.

(*13*) Haupt, E., Beyer, J. and Schoffling, K.: The influence of various sulphonylurea derivatives on the oral glucose tolerance tests in healthy subjects and obese maturity-onset diabetics. Dtsch. Med. Wschr. 99:385–88, 1974.