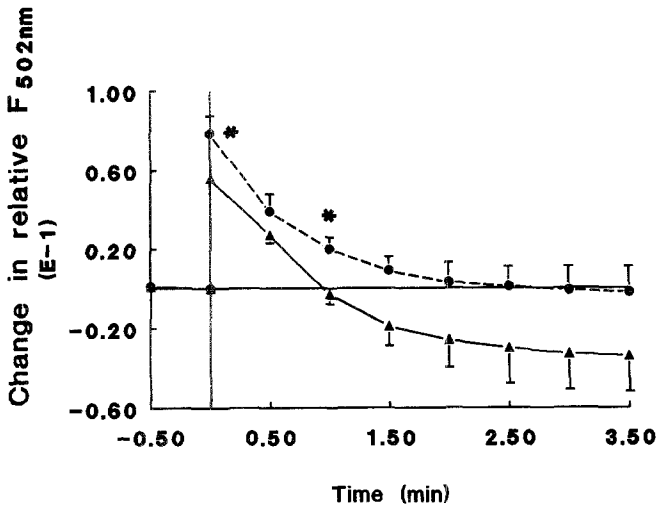

Fig. 1. Effect of non-insulin-dependent diabetes on caffeine-induced Ca^{2+} release from the sarcoplasmic reticulum of adult cardiomyocytes. Cardiomyocytes were prepared and then loaded with fura 2 using the method described by Allo et al. [3]. Caffeine (10 mmol/l) was added at time 0 and changes in fluorescence measured over time for cells from control (▲) and non-insulin-dependent diabetic (●) hearts. The data are expressed as the difference in relative fluorescence (F) at 502 nm between cells exposed to caffeine and those incubated in the standard buffer used by Allo et al. [3]. Each point represents the mean ± SEM of experiments carried out on three different cell preparations. * $p < 0.05$ vs non-diabetic control cells

ment in glucose utilization is largely linked to a defect in glucose transport [2].

We agree with the statement by Thompson and Mikhailidis that variables other than hyperglycaemia must be considered when investigating complications of diabetes. We have previously reported that one of the major defects of the non-insulivn-dependent diabetic heart is an impairment in Na^+, Ca^{2+} exchange, which contributes to an elevation in cytoplasmic calcium levels [3]. Moreover, recent studies with isolated myocytes displayed in Figure 1 show that calcium released from sarcoplasmic reticular stores by 10 mmol/l caffeine is elevated in non-insulin-dependent diabetes, demonstrating that cytoplasmic calcium levels, as well as intracellular calcium stores, are significantly elevated in the non-insulin-dependent diabetic heart. We believe that this elevation in intracellular calcium causes a reduction in diastolic compliance, triggering abnormalities in ventricular filling and cardiac performance [4].

Yours sincerely,
S. Allo, M. Mozaffari, G. Wilson and S. W. Schaffer

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Plasma lipoprotein (a) concentration in diabetes mellitus

Dear Sir,

In a recent article, Császár and co-workers [1] reported no differences in lipoprotein (a) concentration in Type 1 (insulin-dependent) and Type 2 (non-insulin-dependent) diabetic patients when compared to two Caucasian populations (Austrians and Hungarians). They concluded that the Lp(a) was not a risk factor contributing to atherosclerotic complications in diabetes.

We have studied a diabetic population and obtained different results some of which do not agree with their conclusions. Forty-four patients diagnosed with Type 2 diabetes, based on the National Diabetes Data Group criteria [2], of less than 5 years duration not taking any lipid lowering drugs, the only treatment being diet modification, were included. None had received insulin or sulphonylureas for at least 1 year before the study. The patients did not have nephrotic syndrome and their proteinuria was lower than 300 mg/day. Plasma cholesterol, HDL cholesterol and plasma triglycerides, were measured by enzymatic methods [3]. LDL cholesterol was calculated using the Friedewald's formula [4]. Lipoprotein A-I and B were quantified in total serum by nephelometry with Behring Institute reagents. Lp(a) was measured by an enzymeimmunoassay with a monoclonal antibody against Lp(a) and a polyclonal anti-Lp(a) antibody conjugated with peroxidase. The intra-assay coefficient of variation was 3.1 % and the inter-assay coefficient of variation was 10 %. HbA_{1c} was measured by a microcolumn chromatographic method with a reference range between 5.1–7.2 %.

We found higher Lp(a) levels in diabetic females (12.40 ± 11.34 mg/100 ml) compared to diabetic males (5.35 ± 7.6 mg/100 ml; $p < 0.02$) and control females (7.78 ± 10.10 mg/ 100 ml; $p < 0.05$) (Table 1). We agree with Császár et al. [1] that Lp(a) levels are independent of metabolic control; we do not find differences related to HbA_{1c} when diabetic patients are compared to control subjects as proposed by other authors [5]. The remaining lipid parameters showed a similar pattern as those presented by Czászár et al. The higher Lp(a) levels observed in female diabetic patients can be interpreted as an associated factor which could help to explain the increased cardiovascular risk observed in these patients [6].

We believe that risk factors for cardiovascular disease related to higher Lp(a) levels in diabetic patients, cannot be extrapolated to the general population. Because conflicting data about this lipoprotein are continuously emerging in the literature they should be interpreted with caution.

Yours sincerely,
J. Vendrell, C. Gutiérrez, R. Pastor, and C. Richart

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Table 1. Lipid and lipoprotein plasma concentrations, laboratory data and clinical characteristics of the study subjects

	Control men $n = 25$	Type 2 diabetic men $n = 15$	Control women $n = 35$	Type 2 diabetic women $n = 29$
Age (years)	44.46 ± 6.64	50.78 ± 9.78	48.55 ± 10.08	54.22 ± 7.94
BMI (kg/m^2)	26.65 ± 2.29	27.90 ± 5.07	26.13 ± 3.22	29.11 ± 5.69
Cholesterol (mmol/l)	5.22 ± 0.99	5.40 ± 0.81	6.00 ± 1.03	6.06 ± 1.13
LDL cholesterol (mmol/l)	3.28 ± 0.76	3.36 ± 0.74	3.89 ± 0.81	3.98 ± 0.98
HDL cholesterol (mmol/l)	1.31 ± 0.34	1.15 ± 0.27	1.41 ± 0.33	1.13 ± 0.32[a]
Triglycerides (mmol/l)	1.55 ± 0.85	2.00 ± 0.89	1.54 ± 1.03	1.98 ± 1.12[a]
Apo A–I (g/l)	1.58 ± 0.33	1.37 ± 0.21	1.78 ± 0.27	1.45 ± 0.28[b]
Apo B (g/l)	1.30 ± 0.37	1.28 ± 0.32	1.32 ± 0.25	1.58 ± 0.38[a]
Lp(a) (mg/100 ml)	10.05 ± 12.09	6.06 ± 7.87	7.54 ± 10.43	12.82 ± 11.29[a, c]
HbA_{1c} (%)	–	9.44 ± 2.66	–	9.03 ± 1.93

Results are expressed as mean ± SD.
[a] $p < 0.05$, [b] $p < 0.001$ compared to the control group, [c] $p < 0.001$ compared to the Type 2 diabetic men. Apo, Apolipoprotein; Lp(a), Lipoprotein (a)

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Response from the authors

Dear Sir,
Vendrell et al. [1] have studied Lp(a) in diabetic patients and claim that Lp(a) levels are higher in Type 2 (non-insulin-dependent) diabetic women ($n = 29$) than in Type 2 diabetic men ($n = 15$) and in control subjects ($n = 35$). Their subgroups are very small. Apo(a) types were not considered. The statistical method used is not stated. Their data are inconsistent, with Type 2 diabetic men having the lowest Lp(a) level. In view of the large studies [2, 3] which do not find such a difference their result is almost certainly due to the small sample size and inappropriate statistical analysis.

Unfortunately small uncontrolled studies such as this are continuously emerging in the literature resulting in confusion concerning the relationship between Lp(a) and diabetes mellitus.

Yours sincerely,
A. Császár, H. Dieplinger and G. Utermann

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