Strategies for the collection of sibling-pair data for genetic studies in Type 2 (non-insulin-dependent) diabetes mellitus

Dear Sir,

Progress in studying the genetic determinants of Type 2 (non-insulin-dependent) diabetes mellitus has been hampered by lack of knowledge of the probable polygenic mode of inheritance, by late onset and premature disease-related mortality. These factors have made large family studies impossible, except perhaps for maturity onset diabetes of the young (MODY), where large pedigrees can be collected. The analysis of sibling pairs has been proposed as a powerful tool in the study of the genetics of complex diseases because it is possible to analyse these pairs regardless of the mode of inheritance [1]. We are currently engaged in a research programme, the aim of which is to localize genes associated with Type 2 diabetes. Considering the heterogeneous and polygenic nature of Type 2 diabetes, we should be able to obtain relevant statistical data by analysing approximately 200 families [2]. Two strategies have been used for collecting data on diabetic multiplex families, with at least two diabetic members. In the first strategy we asked medical practitioners to refer suitable subjects to us: 200 hospital diabetologists were sent a letter explaining the study. An advertisement was also inserted in the newsletter of the Paris Public Hospitals which is circulated to about 15,000 physicians. Furthermore, advertisements were inserted in five medical journals with a general practitioner readership and circulations of between 40,000 and 100,000. The second strategy, developed simultaneously, involved a direct multi-media approach to the public. About 60 articles were published in daily, weekly and monthly newspapers, and announcements made on television and radio stations. Posters were displayed in Paris metro stations and

public hospitals. Recruitment has now been underway for ten months.

Approaches via the medical profession have yielded fifteen suitable sibling pairs while self-referral by the general public resulted in 190 diabetic families, with at least one sibling pair, and 30 families of maturity onset diabetes of the young. In view of these results we suggest that a general multi-media campaign can represent an efficient and cost-effective strategy for the recruitment of sibling pairs for genetic analysis in Type 2 diabetes. This strategy could be useful as well, for the study of other complex and heterogeneous familial diseases (for instance arterial hypertension), where a large number of families is required. Finally, a secondary benefit is obtained from a multi-media approach, in terms of public awareness and early diagnosis of diabetes. Indeed, diabetes was unknown in more than 10% of the diabetic subjects included in this study.

Yours sincerely,

P. Froguel, G. Velho, D. Cohen and P. Passa

References

1. Suarez BK (1983) A sib-pair strategy for the use of restriction fragment length polymorphisms to study the mode of transmission of Type 2 diabetes. *Am J Hum Genet* 35: 34–48
2. Rich SS (1990) Mapping genes in diabetes: genetic epidemiological perspective. *Diabetes* 39: 1315–1319

Dr. P. Froguel

Dr. G. Velho

C.E.P.H. – Centre d'Etude du Polymorphisme Humain,

27 rue Juliette Dodu,

F-75010 Paris, France

Announcement

8th International Beilinson Symposium on Prediabetes

This Symposium will be held from October 20–25, 1991 in Herzliya, Israel. *For further details please contact:* Prof. Z. Laron, Director, Institute of Pediatric and Adolescent Endocrinology, Beilinson Medical Center, Petah Tikva 49100, Israel.