Primary prevention of type 2 diabetes: Time for a change!

The last 10 years have witnessed numerous randomised controlled trials on the feasibility of intensive lifestyle changes in the prevention of type 2 diabetes. Despite this, very few novel recommendations have been made. In addition, despite robust evidence in trials, few or no data have emerged for prevention at the practice level. Anecdotal evidence from healthcare professionals (HCPs) suggests that sustaining intensive lifestyle changes in the community may be difficult, and that risk reduction through intensive lifestyle changes seen in trials is more difficult to translate into real-life clinical practice. Possible reasons for this might include selection bias (towards individuals at higher risk), higher levels of motivation in trial participants (aided by regular access to a HCP), and the fact that trial participants may have fewer comorbidities that would otherwise preclude intensive lifestyle changes in the real-life setting.

The NICE guidelines on prevention of type 2 diabetes (NICE, 2011) and on screening for those at risk (NICE, 2012) are certainly a step forward from the public health perspective. The success of a similar approach towards vascular disease screening as part of NHS health checks has been variable and the programme is being rolled out in stages throughout the country (Department of Health, 2009; Graley et al, 2011). The NICE guidelines offer an algorithmic approach to screening and on how often re-screening is required, and one expected outcome of the guidelines will be an increase in the number of people with prediabetes seen at the practice level.

People with pre-diabetes are at a higher risk of developing not just type 2 diabetes but also vascular complications. Vascular protective data from the legacy effect of the UK Prospective Diabetes Study (UKPDS; Holman et al, 2008) and long-term follow-up of Steno-2 (Gæde et al, 1999) suggest an earlier intensive multifactorial approach to cardiovascular disease (CVD) risk management. Studies such as Action to Control Cardiovascular Risk in Diabetes (ACCORD; ACCORD Study Group, 2011) have suggested that in patients with advanced or longer duration of diabetes (in this case a median of 11.2 years) tight glycaemic control may be deleterious.

More recently, multifactorial intervention in those with type 2 diabetes detected by screening, such as the Anglo-Danish-Dutch Study in General Practice of Intensive Treatment and Complication Prevention in Type 2 Diabetic Patients Identified by Screening (ADDITION) studies, have shown a non-significant reduction in CVD (Griffin et al, 2011; Webb et al, 2012). This is likely to be because this cohort of patients has very early diabetes, and to see a significant difference in rates of CVD, a longer follow-up duration is needed. The 20-year follow-up of the Da Qing study (Gong et al, 2011) also failed to demonstrate CVD risk benefits with intensive lifestyle changes in those with impaired glucose tolerance. However, it was not powered to assess CVD outcomes. More recently, the Look AHEAD (Action for Health in Diabetes; Look AHEAD Research Group, 2010) study has been halted as a result of a lack of significant benefits with intensive lifestyle changes for CVD risk reduction in those with type 2 diabetes.

It is possible to make some reasonable extrapolations from these studies. Screening, at least in those at risk, may not just be clinically effective but also cost-effective. Earlier multifactorial intervention, even if this is feasible only for the first 5–10 years after diagnosis, may be beneficial in the long term. It still remains to be determined what else can be done for people with pre-diabetes, in addition to lifestyle changes and re-screening periodically. CVD risk in this group needs to be addressed.

In conclusion, it remains to be seen how people identified as being at risk of developing type 2 diabetes are managed and supported in the community. ■

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