Assessing quality of care in relation to control of cardiovascular risk

Suboptimal control of diabetes and other cardiovascular risk factors is common, despite the publication of evidence-based guidelines for treating patients with these risk factors. It is unclear, however, whether suboptimal control is caused by poor health-care provision, poor compliance with treatment, or the presence of particularly severe disease that is unresponsive to optimal treatment. Measures that assess health-care quality, in relation to the control of cardiovascular risk factors, should ideally take these factors into account. Rodondi *et al*., therefore, suggest that assessing the response of health-care providers to the presence of poorly controlled risk factors might be more helpful than simply assessing levels of testing, or the proportion of patients with well-controlled risk factors.

The authors retrospectively identified 253,238 adult patients in Northern California who had poor control of one or more cardiovascular risk factors (hypertension, dyslipidemia, and diabetes mellitus). Few patients received multiple medications or maximal doses at onset of poor control. Most patients received therapy intensifications within 6 months. Notably, patients with high cardiovascular risk were more likely to experience therapy intensification—an encouraging finding, given that recent guidelines emphasize the importance of tight control of blood pressure and lipids for these patients. Overall, 18–41% of patients (depending on the risk factor present) did not receive a therapy modification for or achieve control of an elevated cardiovascular risk factor within 6 months. The authors suggest that identifying such patients might lead to improved quality of care.

The authors noted intriguing variations with ethnicity that should be investigated further.

Original article Rodondi N *et al.* (2006) Therapy modifications in response to poorly controlled hypertension, dyslipidemia, and diabetes mellitus. *Ann Intern Med* **144:** 475–484

Passive smokers are at risk of developing glucose intolerance

Although it has been suggested that smoking increases the risk of developing diabetes, this association has yet to be confirmed. A US team has examined the link between exposure to tobacco smoke (both active and passive) and the development of glucose intolerance in a prospective, population-based, longitudinal study.

In all, 4,572 participants were categorized according to their smoking status: current smokers ($n = 1,386$, mean 10 cigarettes daily), former smokers ($n = 621$), nonsmokers exposed to passive smoke ($n = 1,452$, mean 12.6 h of smoke exposure per week), and nonsmokers not exposed to passive smoke ($n = 1,113$). This last group was used as a reference population. Current smokers were found to have the highest risk of glucose intolerance, with 22% of this group developing glucose intolerance over the 15-year follow-up period (adjusted hazard ratio 1.65, 95% CI 1.27–2.13). Surprisingly, 17% of nonsmokers exposed to passive smoke also developed glucose intolerance, and had the second-highest risk (adjusted hazard ratio 1.35, 95% CI 1.06–1.71). The risk for former smokers did not differ statistically significantly from that of the reference population (14% and 11%, respectively).

The association between smoking and glucose intolerance was stronger for white participants than for African American participants, and was stronger for men than for women. Although the observational nature of this study only allows the inference of a cause–effect relationship, it is possible that tobacco smoke, whether active or passive, has a toxic effect on the pancreas, or an effect on weight distribution and insulin resistance, and thus subsequently might contribute to the development of glucose intolerance.

Original article Houston TK *et al.* (2006) Active and passive smoking and development of glucose intolerance among young adults in a prospective cohort: CARDIA study. *BMJ* **332:** 1064–1069

Growth hormone therapy has a positive effect on cardiovascular risk

Patients with growth hormone deficiency (GHD) have an increased risk of obesity, insulin resistance, lipid alterations, atherosclerotic changes, and also have reduced cardiac performance, all of which increase morbidity and mortality. In a placebo-controlled, double blind, crossover study, Bollerslev *et al*. investigated the effects of GH therapy on cardiovascular risk factors in patients with GHD.