DIABETES

Postmenopausal hormone therapy prevents diabetes

Studies have indicated that postmenopausal hormone therapy is associated with a decreased risk of developing diabetes mellitus. Now, a population-based, prospective cohort study has confirmed these findings.

“...diabetes risk reduction related to current hormone therapy use during the follow-up was remarkable...”

Kati Pentti and investigators from Kuopio University, Finland, carried out a prospective analysis as part of the Kuopio Osteoporosis Risk Factor and Prevention (OSTPRE) study, the primary objective of which was to study factors associated with fractures and falls. Pentti and colleagues focused on the secondary aim and studied factors associated with chronic diseases, such as effects of hormone-replacement therapy or weight changes, in cardiovascular end points.

The researchers examined the effects of hormone therapy on the incidence of diabetes mellitus in 8,483 postmenopausal women (age 52–62 years). Participants

responded to repeated questionnaires in 1989, 1994 and 1999 that provided information on use of hormone therapy and health events. None of the women had diabetes mellitus in 1994.

During the 5-year follow-up, a total of 162 new cases of diabetes mellitus were reported in the study population. Hormone therapy use was associated with a notable reduction in risk of developing diabetes mellitus. “The risk decrease was accentuated (69%) in women who used hormone therapy [for] more than half of the follow-up time,” Pentti comments. Compared with individuals who had never used hormone therapy, the reduction in risk of diabetes mellitus was 19% for past users of hormone therapy, 47% for part-time users (during the follow-up <2.5 years) and 69% for continuous users of hormone therapy (during the follow-up 2.5–5.0 years). Pentti adds, “...diabetes risk reduction related to current hormone therapy use during the follow-up was remarkable (62% for all current HT users during the follow-up) compared with never users.” Current hormone therapy users had fewer risk factors for diabetes

mellitus than their nonuser counterparts; however, adjusting for such characteristics had no effect on the results.

The investigators postulate that long-term exposure to hormone therapy, as recorded in the majority of the study cohort, could explain the observed protective effect. Part of the benefit of such treatment may have been lost in past users of hormone therapy. Similarly, those who only received hormone therapy for a short time before follow-up may not have yet experienced its full benefits. A possible mechanism for this protective effect could be an altered distribution of body fat, which often accumulates in the abdomen during menopause and leads to decreased insulin sensitivity.

“The next step is to examine the effect of transdermal hormone therapy and oral hormone therapy on incidence of diabetes and CHD,” Pentti concludes.

Lisa Richards

Original article Pentti, K. *et al.* Hormone therapy protects from diabetes: the Kuopio Osteoporosis Risk Factor and Prevention Study. *Eur. J. Endocrinol.* **160**, 979–983 (2009).