

**Is this section, the reader can find comments on POEMs published in several magazines. The term POEM stands for "Patient-Oriented Evidence that Matters". POEMs are based on studies with a robust methodology, especially randomised controlled trials, meta-analyses, systematic reviews and validated guidelines whose outcomes are patient-oriented. Additional information may be found in Rev Port Clinica Geral, Nov/Dec 2005.<sup>1</sup> RPCG also published a glossary of terms and levels of evidence in its issue of May/June of 2006 for a better understanding of the taxonomy of evidence, including the Level Of Evidence (LOE), which is provided at the conclusion of each POEM.<sup>2</sup>**

**Contributions to this section may be sent to [poems.rpcg@gmail.com](mailto:poems.rpcg@gmail.com).**

1. Sanchez JP. Simplesmente POEMs (Simply POEMs). Rev Port Clin Geral 2005;21:631-4.

2. Mateus A, Sanchez JP. POEMs: glossário e níveis de evidência (POEMs: glossary and levels of evidence). Rev Port Clin Geral 2006; 22: 400-4.

## DIET, EXERCISE, AND DRUGS MAY PREVENT DIABETES IN HIGH-RISK PATIENTS

Commentary on the POEM 'Can the onset of diabetes be delayed or prevented in people with impaired glucose tolerance?' Available in <http://www.infoPOEMs.com> [accessed on 03/06/2007].

Reference: Gillies CL, Abrams KR, Lambert PC, et al. Pharmacological and lifestyle interventions to prevent or delay type 2 diabetes in people with impaired glucose tolerance: systematic review and meta-analysis. BMJ 2007;334:299.

### Clinical question

**Can the onset of diabetes be delayed or prevented in people with impaired glucose tolerance?**

### Study design

To answer this question, the authors completed a systematic review and meta-analysis, financed by governmental funds in the United Kingdom, with the objective of quantifying the efficacy of pharmacological interventions and lifestyle changes to prevent or delay the onset of type diabetes in patients with impaired glucose tolerance.

The researchers completed a thorough search of 4 databases, contacted experts on the relevant studies, and checked the references of identified studies.

They included only randomized controlled trials (most were not blin-

ded) that evaluated medicine or lifestyle changes to prevent the onset of type 2 diabetes in patients with impaired glucose tolerance. They included research in all languages. Two authors independently assessed the validity of studies (Jadad score) and abstracted data from them. They excluded 6 studies considered not appropriately randomized, or in which prevention of type 2 diabetes was not the primary goal of intervention. From the 21 studies included in the systematic review, 17 (8,084 patients) had sufficient data and were adequate for meta-analysis. The 17 studies included 2 studies done in Japan and 3 in China, and most of the studies were of several years in duration. Since data were not reported in the same way in all of the studies, the authors had to estimate some data. They used the more conservative random effect model when combining the data.

In the studies, the baseline risk of diabetes was 37,1% in 5 years. Overall, the interventions decreased the onset of frank diabetes by approximately half (Hazard ratio [HR] = 0.51; 95% CI, 0.44 – 0.60). There was a similar reduction in risk (HR≈0.50) with diet changes, exercise or in combination. The oral antidiabetic drugs (acarbase, glipizide,

metformin and the biguanide flumamine) decreased the onset of diabetes by 30% (HR = 0.7; 0.62 - 0.79). The Number Needed to Treat to prevent one patient for developing diabetes was 6,4 for lifestyle changes (IC 5,0-8,4), 10,8 for oral antidiabetics (IC 8,1-15,0) and 5,4 for orlistat (IC 4,1-7,6). Although less well studied, it seems that the rate of diabetes returns to baseline once drug therapy is stopped.

### Conclusions

The authors concluded that pharmacological intervention and lifestyle changes will slow the progression of diabetes by approximately 50% in patients with impaired glucose tolerance. However, research has not been conducted for long enough to determine whether diabetes onset is prevented or just delayed. Lifestyle changes are at least as efficient as drug therapy. **(Level of Evidence = 1a)**

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