

Diabetes

Overtesting in stable type 2 diabetes can lead to overtreatment

A recent study from the United States has found that some patients with stable type 2 diabetes may be having their HbA_{1c} checked more frequently than is necessary, resulting in overtreatment.

The study cohort consisted of 31,545 patients with a mean age of 58 years and mean HbA_{1c} 6.2%. A retrospective data analysis was carried out from commercial insurance data, between 2001 and 2013. The entry criteria were age over 18, with type 2 diabetes that had been stable, defined as an HbA_{1c} < 7% for two consecutive tests within 24 months. Patients were excluded if they were pregnant, using insulin or subject to severe hypoglycaemia or hyperglycaemia.

Frequency of HbA_{1c} testing was measured over 24 months from the second test confirming good control. The frequency of testing was defined as:

- Guideline recommended – once or twice a year
- Frequent – three to four times a year
- Excessive – five or more times a year

Changes in treatment prescribed were ascertained within three months of each test.

In this cohort, patient testing was excessive in 6% and frequent in 55% of cases. Patients over 65 years old and those with extensive comorbidities were the most likely to have excessive testing.

Despite good glycaemic control at baseline, treatment was intensified with the addition of oral hypoglycaemic agents or insulin in 8.4% of these

patients (13% of the excessively treated group, 9% of the frequent group and 7% of the tested as guidelines group). Excessive testing was associated with treatment intensification with an odds ratio (OR) 1.35 (95% CI: 1.22-1.50).

Testing frequency varied over the course of the study. Excessive testing rates remained unchanged in 2003-08 compared with 2001-02. However, excessive testing was less likely in 2009-10 and 2011.

The study was performed in the United States, where some of the pressures to test and treat are different from the NHS environment. In the UK, there is pressure to test and achieve glycaemic targets for QOF payments.

This study is a reminder to GPs that HbA_{1c} measurements need not be repeated more than twice a year in stable patients. HbA_{1c} targets should be set for individual patients, based on age, duration of diabetes and comorbidities.

The benefits of increasing hypoglycaemic treatment are probably most apparent in the younger patient groups, and may be of less benefit, and possibly detrimental, in the older, stable patient.

DR MATTHEW LOCKYER
McCoy RG, Van Houten HK, Ross JS et al. HbA_{1c} overtesting and overtreatment among US adults with controlled type 2 diabetes, 2001-13: observational population based study. *BMJ* 2015;351:h6138

Cardiovascular disease

Clopidogrel vs aspirin in patients with drug-eluting stents

Monotherapy with clopidogrel was associated with a reduced risk of recurrent ischaemic events compared with aspirin in patients with drug eluting stents (DES), in an observational study. All patients had previously undergone 12 months of dual antiplatelet therapy following stent insertion.

A total of 3,243 consecutive patients receiving DES between January 2003 and December 2010 at a medical centre in Korea were studied. Of these, 2,472, mean age 62, had received aspirin and 771, mean age 64, clopidogrel alone after 12 months' treatment with dual antiplatelet therapy.

Patients in the clopidogrel group had more comorbidities and more complex lesions than those in the aspirin group and were also more likely to be smokers.

At 36 months after initiation of antiplatelet monotherapy:

- Clopidogrel was associated with a reduction in risk for a composite of cardiac death, myocardial infarction, or stroke: aspirin (3.8%) versus clopidogrel (2.6%); hazard ratio (HR) 0.54 (95% CI: 0.32-0.92; P = 0.02)
- Risk of cardiac death was lower with clopidogrel (0.5%) than with aspirin (1.4%); HR 0.31 (95% CI: 0.11-0.93; P = 0.04).

Dual antiplatelet therapy for 12 months is recommended following DES insertion to reduce the risk of early in-stent restenosis and further cardiac events. Such therapy can

increase the risk, particularly of upper gastrointestinal, bleeding but that increase in bleeding risk becomes more important as the risk of recurrent cardiac events declines and the transition to an unacceptable bleeding risk is felt to be 12 months. However, up until now there have been no studies to determine which antiplatelet gives the best long-term outcome when the switch from dual therapy to monotherapy occurs.

The authors concluded that in patients with DES, after 12 months of dual antiplatelet therapy, clopidogrel when compared with aspirin monotherapy, appeared to be associated with a reduced risk of recurrent ischaemic events.

This finding warrants further research with randomised controlled trials as the current practice of stopping clopidogrel after 12 months and continuing with aspirin long term may not necessarily be the optimal strategy.

DR PETER SAVILL

Park TK, Song YB, Ahn J et al. Clopidogrel versus aspirin as an antiplatelet monotherapy after 12-month dual-antiplatelet therapy in the era of drug-eluting stents. *Circ Cardiovasc Interv* 2016;9:e002816

Obstetrics and gynaecology

High potato intake before pregnancy may be linked to GDM

Research from the Nurses' Health Study II (NHSII) suggests an association between pre-pregnancy potato consumption and subsequent gestational diabetes mellitus (GDM).

The NHSII recruited a cohort of 116,430 nurses, aged 24 to 44, in 1989 in an ongoing study. Between 1991 and 2001, 21,693 singleton pregnancies were identified in 15,632 women, of which 854 (5.5%) were complicated by incident GDM.

Using food frequency questionnaires completed every two years it was possible to identify potato products consumed and quantify their frequency of consumption. These data were compared with a comprehensive set of demographic, nutritional and lifestyle variables. Robust statistical analyses including testing with multiple regression analyses models was performed.

Four levels of potato consumption were defined: < 1 serving per week; 1 serving per week; 2-4 servings per week and ≥ 5 servings per week.

The statistical model controlled for age, parity, ethnicity, family history of diabetes, smoking, energy intake and physical activity. When compared with < 1 serving per week, the relative risks (RR) of developing GDM were:

- RR 1.25 (95% CI: 1.01-1.54) for 1 serving/week
- RR 1.45 (95% CI: 1.19-1.77) for 2-4 servings/week
- RR 1.81 (95% CI: 1.39-2.37) for ≥ 5 servings/week; P < 0.001 for trend.

A further analysis was performed to estimate the effect of substituting a non-starchy food for two servings of potato per week. The reduction in the risk of GDM had the following substitutions been made was:

- 9%, RR 0.91 (95% CI: 0.85-0.97) for other vegetables
- 10%, RR 0.90 (95% CI: 0.83-0.99) for legumes
- 12%, RR 0.88 (95% CI: 0.83-0.94) for whole grain foods

Along with pasta, bread and rice, potato is a starchy food with a high glycaemic index (GI). High GI diets are associated with raised fasting glucose levels, insulin resistance and type 2 diabetes.

Observational studies always need to be interpreted with great caution. As the authors concede, association does not prove causation. This is particularly so when, as in this paper, statistical estimates of how different eating patterns might have modified those associations are presented as if they were actual interventions. Having said that the NHSII is a leading nutritional epidemiology programme and the findings presented here are eminently plausible; that highly glycaemic food consumption is directly linked to metabolic disorders such as GDM.

DR CHRIS BARCLAY

Bao W, Tobias DK, Hu FB et al. Pre-pregnancy potato consumption and risk of gestational diabetes mellitus: prospective cohort study. *BMJ* 2016;352:h6898

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