From the Journals

A new oral hypoglycaemic agent

Williams R, Stephens J.
SGLT-2 inhibitors – a useful addition to therapy?
***Diabetes Voice* 2013; 58: 33-35**

A novel new oral hypoglycaemic agent (OHA) has recently been introduced in Europe and the USA. It is dapagliflozin – the first of a group of drugs which work in a way entirely different from other OHAs. Dapagliflozin is an inhibitor of sodium-glucose linked transporter 2, or more simply an SGLT-2 inhibitor. SGLT-2 is a protein which regulates the renal reabsorption of glucose. The drug therefore promotes glycosuria thus reducing hyperglycaemia. Trials suggest that dapagliflozin reduces HbA_{1c} by a mean 0.5%, and also causes a modest degree of weight loss. Currently in the UK, dapagliflozin is licensed for use with other OHAs or insulin. As may be expected, a side-effect of treatment is an increased risk of urinary infection and genital candidiasis. However, the problem is not as great as may be expected and overall the drug is well tolerated.

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Diabetes prevalence using HbA_{1c}

Wan Nazaimoon WM, Md Isa SH, Wan Mohamed WB.
Prevalence of diabetes in Malaysia and usefulness of HbA_{1c} as a diagnostic criterion.
***Diabetic Medicine* 2013; 30: 825–8.**

In 2009, the World Health Organization (WHO) endorsed the use of glycated haemoglobin (HbA_{1c}) for the diagnosis of type 2 diabetes, recommending a cut of 6.5%. This is now widely used in Europe and the USA, and is beginning to be rolled out in epidemiological surveys. One concern has been whether the cut-off for HbA_{1c} is appropriate for all geographical and ethnic groups, as the background studies for the WHO recommendation have all been in white Caucasian populations. A recent study from Malaysia (where there are Malay, Chinese, and Indian ethnic groups) seems to confirm this concern. In a large multi-ethnic group, they measured HbA_{1c} and also performed glucose tolerance tests (GTT). It was found that an HbA_{1c} cut-off of 6.5% significantly underdiagnosed diabetes, compared with the GTT. The best sensitivity and specificity was with a cut-off for HbA_{1c} of 6.3%. The overall prevalence of type 2 diabetes was a worrying 22.9%, of which 12.1% were newly diagnosed. Using a 6.5% HbA_{1c} cut-off, the prevalence of new diabetes was only 5.5%.

Similar studies are needed in sub-Saharan Africa before the WHO HbA_{1c} criteria are widely rolled out, as it may well be that black populations similarly need a different cut-off level.

Evidence for education

Carey M, Khunti K, Davies M.
Structured education in diabetes: a review of the evidence
***Diab & Primary Care* 2012; 14: 154–62.**

Patient education is accepted as an important aspect of care in both type 1 and type 2 diabetes. However, there is something of a lack of its effect on hard outcome measures such as glycated haemoglobin (HbA_{1c}). A UK group have recently reviewed the literature on the effectiveness of structured education in diabetes. At least three well-constructed trials of education have taken place over the last 10 years, all in type 2 disease. Follow-up has been variable, but most up to at least 3 to 4 years. Generally, there have been significant improvements in patient knowledge, self-care, satisfaction and compliance. HbA_{1c} changes have been more variable, but generally have confirmed significant improvement. The authors suggest that there are four key features of a successful structured self-management education programme:

- An agreed written curriculum
- Trained educators
- A quality assurance process
- Audit of results

It is interesting that good trials in type 1 diabetes are lacking, but overall this review is encouraging in supporting education as a major intervention in diabetes care.

Reno-protection in type 2 diabetes

Vejakama P, Thakkinstian A, Lertrattananon D et al.
Renoprotective effects of renin-angiotensin system blockade in type 2 diabetic patients: a systematic review and network meta-analysis.
***Diabetologia* 2012; 55: 566–78.**

There is a growing view that in type 2 diabetic patients with hypertension, the best first-line treatment is with angiotensin-converting-enzyme inhibitors (ACE) or angiotensin II receptor blockers (ARB). The belief is that these drugs protect against nephropathy ('reno-protective' effect). There is a debate, however, as to whether this effect may simply be by lowering blood pressure (BP), which also reduces nephropathy incidence and progression. Past trials have had variable results, but a recent meta-analysis seems to confirm a specific reno-protective effect. The researchers analysed 28 eligible randomised controlled trials of ACE or ARBs compared with other drugs in hypertensive type 2 diabetic patients. They found that ACE or ARB treatment did reduce the occurrence of end-stage renal failure (ESRF) or microalbuminuria with an odds ratio (OR) of 0.82 and 0.84 respectively. Though this was not statistically significant, a 'network meta-analysis' did show significant effects. This is useful information, but in Africa must be considered in the context of the costs of these drugs, and the fact that regular monitoring of renal function should ideally be carried out. In many resource-limited areas, it may still be advisable to use simpler and cheaper alternatives, but treat to strict target levels.

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