

# From the Journals

## Diabetes diagnosis in TB patients

Aftab H, Ambreen A, Jamil M et al. Comparative study of HbA1c and fasting plasma glucose versus the oral glucose tolerance test for diagnosis of diabetes in people with tuberculosis. *Diabetic Medicine* 2017; 34: 800-803

It is well known that tuberculosis (TB) significantly increases the risk of developing type 1 diabetes, conversely having diabetes increases the risk of developing TB. This is a major and growing problem in Africa, and optimal diabetes tests for screening patients are not fully understood. This paper reports on a group of 268 smear-positive adult TB patients from Pakistan. All were screened for diabetes with HbA1c, fasting plasma glucose (FPG) and an oral glucose tolerance test (OGTT). Using WHO criteria for diagnosis 14.6% had diabetes by FPG, 11.9% by HbA<sub>1c</sub>, and only 4.9% by OGTT. The FPG and HbA1c tests correlated well, but the OGTT appeared to be insensitive for diagnosis (as well as being a difficult test to perform). If available and affordable, HbA1c therefore seems the simplest (in that it does not require fasting) diagnostic test for TB patients. There may, however, be ethnic differences between Asian and Africans, so ideally similar studies in African patients would be useful.

## New technologies in diabetes

Kennedy ED, Oliver N. Emerging technologies for diabetes. *Practical Diabetes* 2017; 34: 240-244

The last decade, and in particular the last five years, have seen enormous advances in supporting technologies for diabetes care. This recent paper reviews some of these new systems. Continuous glucose monitoring (CGM) allows "continuous" (usually every five minutes) measurement of extra-cellular fluid glucose levels via a subcutaneous probe. There is now a system known as "flash glucose monitoring" where a sensor is implanted into the subcutaneous tissues (usually in the upper arm). Glucose levels can be recorded by an external sensor which will give a current glucose level, as well as a previous eight-hour profile. CGM and "flash" are complementary systems which give different types of record of recent blood glucose levels. The more recent flash system is particularly interesting as it gives both immediate and retrospective glucose levels.

Some years ago, inhaled insulin was introduced, but had a restricted uptake and was later withdrawn. Perhaps of more interest is buccal insulin, which is now available in some countries. It is administered as a metered dose spray which is rapidly absorbed via the buccal mucosa. The results of long term experience with this interesting form of short-acting insulin delivery will be of great interest.

## Can diabetes be "cured"?

Hillson R. Diabetes in remission. *Practical Diabetes* 2017; 34: 78-80

There are occasional patients with type 2 diabetes (T2DM) who may achieve long-term normoglycaemia (variably described as an HbA<sub>1c</sub> level below 6.0% or 5.7%) without drug treatment. These are usually initially obese patients who achieve substantial weight loss, and in western countries this is often seen in those who have had bariatric surgical procedures. This review article explores the question as to whether these people have been "cured" of their diabetes. Clinical experience is that hyperglycaemia may later return if weight increases and even if it does not, sometimes complications may appear - though usually not severe (eg background retinopathy). Nevertheless, there is little doubt that prolonged normoglycaemia is enormously beneficial in terms of long-term morbidity and mortality. It is now suggested that patients with a previous definite diagnosis of T2DM, but with prolonged (over 12 months) normoglycaemia; should not be regarded as cured or resolved, but rather be labelled as "diabetes in remission". Such patients should not be discharged from care and surveillance, but should have annual assessments of glycaemia (HbA<sub>1c</sub> levels), complications (eg retinal screening), and risk factor assessments (blood pressure, lipids etc). Long term follow-up and outcome studies of this interesting group of patients are needed.

## BMI and diabetes trends in Africa

NCD Risk Factor Collaboration (NCD-RisC) - Africa Working Group. Trends in obesity and diabetes across Africa from 1980 to 2014: an analysis of pooled population-based studies. *Int J Epidemiol* 2017; doi 10.1093/ije/dyx078

This paper from South Africa examines long-term trends in body mass index (BMI) and diabetes prevalence in the African continent. BMI data came from 245 surveys (1.2 million subjects), and diabetes prevalence from 76 surveys (182,000 subjects) - all from various African countries. Over the study period (1980 to 2014) mean BMI increased from 21.0 to 23.0 for men and 21.9 to 24.9 in women. Figures for diabetes prevalence were 3.4% to 8.5% in men and 4.1% to 8.9% in women. The figures for northern and southern Africa were higher than for central, eastern and western regions. Not surprisingly, there was a positive correlation between BMI and diabetes prevalence. Though the BMI levels appear lower than in western global areas, the increases are of concern, and are probably a major cause for the significant rises in diabetes prevalence. This useful paper demonstrates the urgent need for political and public health intervention to try to control the rising crisis of diabetes in Africa.