Managing cystic fibrosis related diabetes

It is important for those with cystic fibrosis to have an annual review with a diabetes consultant, writes **Siobhan Hatton**

Diabetes is very common in people with cystic fibrosis (CF). The type of diabetes people with CF get is very different to other types of diabetes. Management and treatment guidelines are different for each person.

Cystic fibrosis related diabetes (CFRD) shares features with Type 1 diabetes and Type 2 diabetes. CFRD has aspects of insulin deficiency and insulin resistance.

In CF, thick, sticky secretions cause scarring of the pancreas. This scarring prevents the pancreas from producing insulin. The pancreas still produces some insulin but not enough to maintain good nutrition and health.

Insulin resistance often occurs in CF due to frequent chest infections, steroid treatment or pregnancy. This means that the cells in the body do not use insulin in the right way so more insulin is needed to change glucose into energy.

CFRD has similar symptoms to that of Type 1 diabetes and Type 2 diabetes, for example, fatigue, increased thirst and urination.

Other common symptoms include an unexplained decline in lung function or weight. As people with CF may not experience any symptoms of diabetes, it is recommended to attend for an oral glucose tolerance test annually, from the age of 10 years.

Frequent monitoring of blood glucose levels is recommended; before meals, and sometimes two hours after meals. Keeping glucose levels under control will help people with cystic fibrosis related diabetes to gain weight, maintain lung function and lower the risk of complications from diabetes. There are different devices available to help with blood glucose monitoring which can be discussed with your diabetes team.

The only treatment that is currently recommended for CRFD is insulin. The insulin dose is adjusted according to individual requirements.

CRFD can be complicated due to the high calorie, high protein and high fat diet that is required in order to maintain weight in CF. This is very different to the advice given to people with Type 1 diabetes and Type 2 diabetes, which can lead to confusion for some people.

Some people with CF need to have high energy supplement drinks or nutritional support over night by enteral feeding, which can further complicate insulin requirements. Individualised dietary advice should be provided by a dietitian with experience in CF and diabetes.

High blood glucose levels can delay recovery from an infection and cause sputum to become more viscous.

Poorly controlled glucose levels can cause a reduction in lung function, lead to weight loss, nephropathy and neuropathy.

An annual review with an endocrinologist is important. This should include a review of insulin and insulin injection technique, a urine test for microalbuminuria blood pressure, blood tests (including a HbA1c) and a foot examination.

All people over 12 years of age with cystic fibrosis related diabetes should be registered with the National Retinal Screening Programme.

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