‘Could my son have diabetes too?’

A 32-year-old man with type 1 diabetes brought his 23-month-old son in for evaluation. The father said that he had noticed his son had had increased numbers of wet diapers and increased thirst in the past week. He said that he could have tested the finger blood stick on his son using his own glucometer but he did not want to ‘make the diagnosis’.

The system review of the toddler and his physical examination were both unremarkable. The family history was significant for the diagnosis of type 1 diabetes (T1DM) in the father at the age of six years.

In the clinic, the non-fasting glucose level of the toddler was 29.082mmol/L (524mg/dL) and his HbA1c level was 35mmol/mol, confirming the diagnosis of diabetes. The father cried in the clinic feeling guilty that he had caused diabetes in his son. We provided positive reinforcement to the father, reassuring him that his good vigilance led to the early diagnosis. Further laboratory evaluation showed positive islet cell antibodies and positive anti-glutamic acid decarboxylase.

A diabetes education session was held in the clinic; the father was able to check the glucose and give insulin to his son successfully.

Discussion

The incidence of T1DM varies according to age, ethnic background and geographical area. It is estimated that 24.5 per 100 000 children up to the age of 14 years in the UK are diagnosed with the condition every year.1 The children of patients with T1DM are at increased risk of developing the disease.2 The increased risk is around 6% if the father is affected while it is around 3% if the mother is affected.3,4 Table 1 shows the increased risk if a parent or sibling has the disease.

<table>
<thead>
<tr>
<th>Affected family member</th>
<th>Increased risk of developing type 1 diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Similar to the general population risk of the area</td>
</tr>
<tr>
<td>Father</td>
<td>6%</td>
</tr>
<tr>
<td>Mother</td>
<td>3%</td>
</tr>
<tr>
<td>Sibling</td>
<td>3–5%</td>
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<tr>
<td>Identical twin sibling</td>
<td>30–50%</td>
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</tbody>
</table>

Table 1. Risk of developing type 1 diabetes in cases where there is an affected family member

It is estimated that at diagnosis of T1DM 4–7% of children have a father with T1DM whereas only 1.5–3% have an affected mother.3

A study from Finland showed that the greatest increase of T1DM occurred in the youngest offspring, aged 0–4 years, when the father had T1DM.4

Since there is no typical Mendelian inheritance of T1DM, it is very important that physicians discuss with their T1DM patients this increased risk once it is known they are planning to have children. Understanding the risk of diabetes in offspring of affected parents is important not only in T1DM but also in type 2 diabetes due to the increased rate of childhood obesity related type 2 diabetes,5 as well as in rare forms of maturity-onset diabetes of the young.6 Parents with diabetes may be more vigilant in detecting early symptoms of diabetes, compared to those without diabetes. Early detection of T1DM can prevent life-threatening diabetic ketoacidosis (DKA), especially in very young children.7 Thus, identifying children at risk for diabetes even before the clinical onset can help both physicians and parents in preventing the dramatic course of DKA.

The early detection and management of T1DM in children with parents who have diabetes may provide an easier course, faster education process, and better overall management of diabetes at home; nevertheless, parents may have a tremendous feeling of guilt about transmitting diabetes to their children. This emotional factor should be recognised and addressed appropriately by the health care team, stressing the positive benefits about parents’ diabetes knowledge.

References