PO-0064  CYSTIC FIBROSIS RELATED DIABETES IN ADOLESCENTS

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Background Cystic fibrosis related diabetes (CFRD) is a combination between reduced insulin secretion and peripheral insulin resistance that only people with cystic fibrosis can get. CFRD is associated with a decline in lung function, poor nutritional status and high mortality rate.

Aim Study of the clinical course and therapeutic management in adolescents with CFRD.

Methods We present 2 cases of CFRD in a female patient (15 years old) and a male patient (17 years old) hospitalised at the CF Centre. The diagnosis of CF was confirmed by positive sweat test (Macroduct USA), identification of CFTR mutation (F508del/F508del), small amounts of elastase in stool. Confirmation of diabetes was achieved by a blood glucose test, blood glucose profile, glycosylated Hb, C peptide, glucose and ketones in urine.

Results On the background of pulmonary exacerbation, both patients had hyperglycemia (9.8/14.1 mmol/l). Subsequently, it triggered clinical syndromes suggestive for diabetes - polydipsia, polyuria, weight loss. Glycemic profile variations 7.8–15.8 mmol/l in boy and 10.4–21.0 mmol/l in girl. Glycosylated Hb values were high (7.3/14.1%) and C-peptide values were low (0.624/0.513). Glucose concentration in urine was 7.3/37.1 g/l and ketones was not detected. Diabetes treatment was performed with Insulin (Glargine, Aspart, Human), which produced clinical benefits by achieving glycemic and clinical syndromes control.

Conclusions Patients with CFRD shows a specific clinical framework and require a strict medical diet control and surveillance of the insulin therapy, case that differs from the other types of diabetes. If early introduced, it significantly improves life expectancy towards these patients.

PO-0065  VITAMIN D STATUS IN CHILDREN WITH TYPE 1 DIABETES

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Background and aims Serum vitamin D (sVD) deficiency may contribute to the development and progression of diabetic nephropathy (DN). Research has shown urinary vitamin D binding protein (uVDBP) excretion is increased after renal injury, and is associated with tubulointerstitial damage. Animal studies suggested that sVD deficiency may be associated with urine loss due to kidney damage. The aim was to test associations of sVD with levels of uVDBP, urinary vitamin D (uVD).

Methods 42 children aged 6–17 years with type 1 diabetes were examined: 24 normoalbuminuric patients (1st group) and 18 microalbuminuric (2nd group). 15 healthy children were included in controls. We measured serum and urine 25(OH)D levels, uVDBP concentrations and tested their correlations.

Results sVD levels were decreased in the patients of the 1st and 2nd groups, compared with controls ((22.03 (17.23; 24.44) and 14.42 (12.02; 19.63), compared with 30.65 (28.45; 35.05) ng/ml, respectively) (p < 0.001)). uVDBP levels were elevated in the patients of the 1st and 2nd groups, compared with control group ((3.2 (2.9; 3.3) and 3.9 (3.7; 4.1), respectively) (p < 0.001)). uVD levels were increased in the patients of the 1st and 2nd groups, compared with control group ((179.5 (174.0; 189.0) and 219.0 (216.0; 222.0), compared with 125.0 (116.5; 136.0) ng/mg, respectively) (p < 0.001)).
compared with 2.2 (2.1±2.6 ng/mg, respectively) (p < 0.001)). The correlations between the levels of sVD and uVD (r = -0.74, p < 0.01), sVD and uVDBP (r = -0.64, p < 0.01) were determined.

**Conclusions** These data suggest that, theoretically, one of the causes of VD deficiency in patients with DN is a urine loss.

**Discussion**

Intensive initial management of type 1 Diabetes can significantly reduce future HbA1C. We aim to follow G2 over next 5 years to establish that an improved metabolic memory could reduce HbA1C levels over longer periods.

**Conclusions**

No significant difference of HbA in two groups post diagnosis; mean HbA1C level (p = 0.082). Comparing the changes over time in the two groups, an increase of HbA1C of 1.78 (Table 2) percentage points in G1 (without intensive monitoring) was significantly greater than the decrease of 0.06 percentage points in G2 (p = 0.008).

**Discussion**

Intensive initial management of type 1 Diabetes can significantly reduce future HbA1C. We aim to follow G2 over next 5 years to establish that an improved metabolic memory could reduce HbA1C levels over longer periods.

**Design** A follow up cohort study of 34 children and adolescents in a large district hospital with diagnosis of Type 1 diabetes between 2005 and 2011.

**Results** In the first group (G1=14), without intensive blood sugar monitoring, mean HbA1Cpost diagnosis was 8.67% (95% CI 7.87–9.48%).11 out of 14 (79%) of them had HbA1C above target level (7.5%). In the second group (G2=20) with intensive monitoring, mean HbA1Cpost diagnosis was 7.87% (95% CI 7.29–8.44%). 12 out of 20 (60%) had HbA1C above target level (7.5%).

**Table 1**

<table>
<thead>
<tr>
<th>Mean HbA post diagnosis quarter</th>
<th>HbA &gt;7.5% (Numbers%)</th>
<th>Reduction of HbA levels achieved (%)</th>
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<tbody>
<tr>
<td>G1a/b</td>
<td>8.67(7.87–9.48)</td>
<td>11(79) 21</td>
</tr>
<tr>
<td>G1a/b</td>
<td>10.45(9.10–11.81)</td>
<td>13(93) 71</td>
</tr>
<tr>
<td>G2a/b</td>
<td>7.87(7.29–8.44)</td>
<td>12(60) 40</td>
</tr>
<tr>
<td>G2a/b</td>
<td>7.81(7.33–8.29)</td>
<td>13(65) 35</td>
</tr>
</tbody>
</table>

**Table 2**

<table>
<thead>
<tr>
<th>HbA trends (%)</th>
<th>95% CI (%)</th>
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<tbody>
<tr>
<td>G1a vs. b</td>
<td>+1.78</td>
</tr>
<tr>
<td>G2a vs. b</td>
<td>−0.06</td>
</tr>
</tbody>
</table>

**Abstract PO-0068**
PO-0065 Vitamin D Status In Children With Type 1 Diabetes

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