Our 2013 update confirms the data we presented in 2012, although almost half of the patients now registered had been included less than 12 months ago. The analysis is in accordance with prior studies concerning basic epidemiologic findings (age, renal disease, type of dialysis). In a significant number of patients, we still observe hypertension (30-60%), anemia (15-20%), severe secondary hyperparathyroidism (30-40%) and failure to thrive (45-55%). As to technical aspects, hemodialysis in children currently relies on central venous catheters in a majority of patients requiring high hygiene standards. Optimization of treatment in pediatric dialysis patients remains challenging.

Background

In Germany, 16 pediatric dialysis centers treating the majority of chronic patients in the country are run by the Curatorium for Dialysis and Kidney Transplantation, KfH, a non-profit corporation. All centers work with a common computerized documentation system, which can be used as a data base for scientific analyses. As soon as informed consent by a legal guardian is obtained, all data can be transferred automatically to QinKid, a German registry for pediatric dialysis patients. Our aim is to give an update on the situation of pediatric dialysis patients in Germany in 2013 and to provide data that might help to identify patients at risk and to optimize treatment protocols.

Methods

We present data from January until December 2013. All patients <18 years dialyzing chronically at one of the participating centers were eligible for inclusion into QinKid. There were no exclusion criteria. Patients were counted if they had at least one dialysis in the period analyzed and grouped according to the modality used most often. All data entered into the documentation system were available for analysis. Multiple values were averaged. Some individual parameters were not available in all patients.

Results

152 patients were eligible for analysis (of these, 43% had been included in QinKid during the last 12 months)

Patients were grouped according to the type of dialysis most often documented → peritoneal dialysis, PD, n=81; hemodialysis, HD, n=71;

Clinical parameters (n= number of patients in whom data was available) → Dialysis access via central venous catheter in HD patients (n=60)

- Systolic blood pressure > 95th centile (PD: n=49, HD: n=65)
  - 32.7% of PD patients
  - 56.9% of HD patients
- Diastolic blood pressure > 95th centile (PD: n=49, HD: n=65)
  - 42.9% of PD patients
  - 29.2% of HD patients
- Growth velocity < 25th centile (PD: n=55, HD: n=47)
  - 47.3% of PD patients
  - 53.2% of HD patients

Renal disease (n=152)
31 % CAKUT*
19 % Glomerular Nephropathy
9 % Cystic Kidney Disease
7 % Systemic Disease
2.6 % Metabolic Disorders
12.5 % Other
18 % Unknown

*CAKUT= congenital anomalies of the kidney and urinary tract

Laboratory parameters (multiple values were averaged)

<table>
<thead>
<tr>
<th>Percentage of patients</th>
<th>01-12/2013 vs. 01-12/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin level &lt;10 g/d</td>
<td>19.4% vs. 16.1% (n.s.)</td>
</tr>
<tr>
<td>Ferritin level &lt; 100 µg/l</td>
<td>28.1%* vs. 26.9% (n.s.)</td>
</tr>
<tr>
<td>Ferritin level &gt; 500 µg/l</td>
<td>19 % vs. 21% (n.s.)</td>
</tr>
<tr>
<td>Parathyroid hormone &gt; 300 pg/ml</td>
<td>38% vs. 34% (n.s.)</td>
</tr>
<tr>
<td>Serum albumin &lt; 35 g/dl</td>
<td>22.1%** vs. 24.8% (n.s.)</td>
</tr>
<tr>
<td>Calcium-Phosphorus ≥ 4.5 mmol/l²</td>
<td>26.3% (in 2012 n.a.)</td>
</tr>
</tbody>
</table>

*Low ferritin (< 100 µg/d) was present in 39.7 % of PD patients vs. 15.5 % of HD patients (p<0.01)
**Hypalbuminemia (< 35 g/dl) was present in 31.9 % of PD patients vs. 19.2 % of HD patients (p<0.01)

Conclusion

Treating pediatric dialysis patients is a challenging task. Thanks to the participation of all centers, QinKid is a tool suitable to give a feedback on the overall situation of pediatric dialysis patients in Germany. Furthermore, the aim is to provide data that help to identify patients in whom we should have a second look on individual aspects of treatment (e.g. iron supplementation, nutrition, growth hormone treatment). We wish to thank all centers for their cooperation.

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