GASTROINTESTINAL NEUROENDOCRINE TUMOURS: TUMOUR CHARACTERISTICS AND TREATMENT MODALITIES DETERMINE LONG-TERM CLINICAL OUTCOME


Background:
Prognosis of neuroendocrine tumours (NET) has been difficult to predict due to heterogenous tumour biology, various classification systems, lack of validated and recent data due to the rarity of these tumours. Some prognostic factors have been identified1-3, however, either mostly single center-based surveys or focus on single subentities of NET. In recent years NET-registries have been founded in several countries4-6 and here we report the results from the German NET-registry, which is associated with the German Society for Endocrinology (DGE)7. In a nationwide survey including solely data from NET diagnosed since 1999 the German registry for gastrointestinal NET (G-NET-Reg) has strived to accumulate and analyze factors which influence prognosis in NET.

Aim of the study:
The German NET-registry collected data from patients with histologically proven NET from all over Germany. Epidemiological, histopathological and clinical data as well as information on overall and NET-specific outcome were obtained and analyzed.

Results:
Figure 1: Participating centers of the German NET-registry
Table 1: Basic data in the German NET-registry

<table>
<thead>
<tr>
<th>Number of evaluated cases:</th>
<th>1856</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age at diagnosis:</td>
<td>65.3 years</td>
</tr>
<tr>
<td>Median age at diagnosis:</td>
<td>58 years (range 13-93)</td>
</tr>
<tr>
<td>Mean follow-up:</td>
<td>2.34 yrs</td>
</tr>
<tr>
<td>Median follow-up:</td>
<td>1.53 yrs (range 1d-13.6yrs)</td>
</tr>
</tbody>
</table>

Table 2: Therapeutic modalities in the cohort (a) and success rates of surgery (b)

<table>
<thead>
<tr>
<th>Tx-mode total</th>
<th>as 1st-line-Tx</th>
<th>as 2nd-line-Tx</th>
</tr>
</thead>
<tbody>
<tr>
<td>surgery</td>
<td>1836</td>
<td>1370</td>
</tr>
<tr>
<td>medical Tx</td>
<td>1155</td>
<td>320</td>
</tr>
<tr>
<td>radionuclide Tx</td>
<td>411</td>
<td>61</td>
</tr>
<tr>
<td>ablative Tx</td>
<td>185</td>
<td>15</td>
</tr>
</tbody>
</table>

Conclusions:
- The German NET-registry reports data from approx. 2000 pts. with NET mostly of the GI-tract from 21 centers in Germany.
- A preference of metastatic as well as pancreatic and small bowel NET is reported.
- Carcinoid syndrome, hyperinsulineemic hypoglycemic neuroglycopenia (insulinoma syndrome) and Zollinger-Ellison syndrome are the most frequent functional syndromes.
- Survival rates in this cohort with initial diagnosis since 1999 are very good when compared to historical cohorts.
- Stratification according to WHO classification or to ENETS grading identify significant prognostic subgroups.
- Analysis of this large cohort reveals improved survival in NET-patients with modern management strategies.

References:
1 Pape UF et al. Prognostic factors of long-term outcome in GEP-NET. Endocr Rel Cancer 2008
2 Pape UF et al. Prognostic relevance of a novel TNM classification system for upper GEP-NET. Cancer 2008
7 Lombard-Bohas C et al. Thirteen-month registration of patients with gastroenteropancreatic endocrine tumours in France. Neuroendocrinology 2009
8 Ahmed A et al. Midgut neuroendocrine tumours with liver metastases. Results of the UKI NETs study. Endocr Rel Cancer 2009
9 Plößking U et al. The German NET-Register: An audit on the diagnosis and therapy of neuroendocrine tumours. Neuroendocrinology 2009

Methods:
Data from 2005 patients with NET were collected by specifically trained study nurses by structured extraction from clinical source documents after informed consent had been obtained and entered into a database (Microsoft Access). Analysis was performed after structured data extraction and statistical assessment using SPSS Version 15.0.

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