



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

A. König¹, S. Maasberg², A. Rinke¹, H. Franz³, G. Skrobek-Engel³, D. Hörsch⁴, H. Lehnert⁵, C. Auernhammer⁶, B. Wiedenmann², A. Raffel⁷, A. Altendorf-Hofmann⁸, S. Petersenn⁹, U.-F. Pape²

¹Klinik f. Gastroenterologie, Endokrinologie & Stoffwechsel, Universitätsklinikum Marburg, ²Med. Klinik m.S. Hepatologie & Gastroenterologie, Charité, Campus Virchow Klinikum, Berlin, ³Lohmann & Birkner, Health Care Consulting, Berlin, ⁴Klinik f. Innere Medizin, Zentralklinik, Bad Berka, ⁵Medizinische Klinik I, Universitätsklinikum Schleswig-Holstein, Lübeck, ⁶Med. Klinik u. Poliklinik II, Klinikum Großhadern, LMU, München, ⁷Klinik f. Allgemein- & Viszeralchirurgie, Universitätsklinikum Düsseldorf, ⁸Klinik f. Allgemein-, Viszeral- & Gefäßchirurgie, Universitätsklinikum Jena, ⁹Klinik f. Endokrinologie, Universitätsklinikum Essen for the participating centers of the German Registry of Neuroendocrine Gastrointestinal Tumours (NET-Register)

Background:

Prognosis of neuroendocrine tumours (NET) has been difficult to predict due to heterogenous tumour biology, various classification systems, and lack of reliable 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 these analyses limit the value of their results. On the other hand, population-based analyses⁴⁻⁶ are limited by the inclusion of cases with differently classified NET and a lack of NET-specific details. In recent years NET-registries have been founded in several countries^{7,8} and here we report the results from the German NET-registry, which is associated within the German Society for Endocrinology (DGE)⁹. 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 (figure 1). Epidemiological, histopathological and clinical data as well as information on outcome results were obtained and analyzed.

Results:

Figure 1: Participating centers of the German NET-registry



Table 1: Basic data in the German NET-registry

| | |
|----------------------------------|-----------------------------|
| number of included cases: | 2045 |
| number of evaluable cases: | 1856 |
| ♀:♂ | 943:1018 |
| mean age at initial diagnosis: | 65.3 yrs |
| median age at initial diagnosis: | 58 yrs (range 13-93) |
| mean follow-up: | 2.34 yrs |
| median follow-up: | 1.53 yrs (range 1d-13.6yrs) |

Figure 1: Age distribution at initial diagnosis

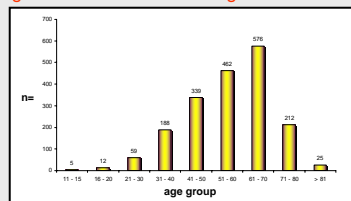


Figure 3: Results of survival analysis in the whole cohort

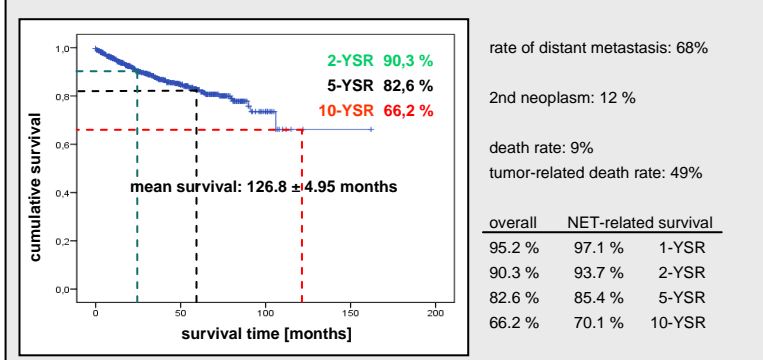


Figure 4: Results of survival analysis stratified according to WHO classification (a) or grading [Ki67- or mitotic-index, ENETS] (b)

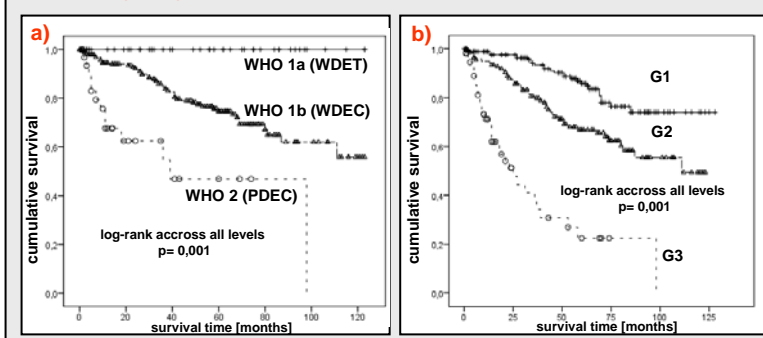
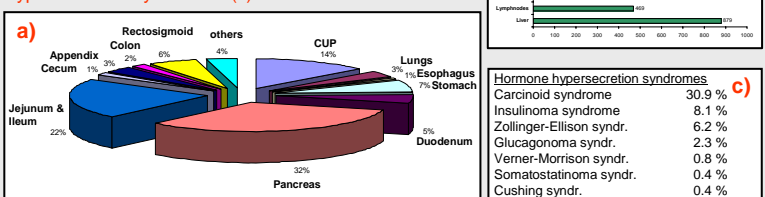


Table 2: Therapeutic modalities in the cohort (a) and success rates of surgery (b)

| | total | as 1st-line-Tx | b) resection status | | |
|-----------------|-------|----------------|---------------------|----------------|-----|
| | | | total | as 1st-line-Tx | |
| surgery | 1836 | 1370 | R0 | 504 | 438 |
| medical Tx | 1155 | 320 | R1 | 154 | 134 |
| radionuclide Tx | 411 | 61 | R2 | 67 | 54 |
| ablative Tx | 185 | 15 | RX | 84 | 68 |

Figure 2: Primary tumour localizations (a), observed metastatic localizations (b) and prevalence of specific hormone hypersecretion syndromes (c) in the cohort



Conclusions:

- The German NET-registry reports data from > 2000 pts. with NET mainly 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, hyperinsulinemic 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 grading according to Ki67-index identify significant prognostic subgroups.
- Analysis of this large cohort reveals improved survival in NET-patients with modern management strategies.

Methods:

Data from 2045 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 data base (Microsoft Access)⁹. Data analysis was performed after structured data extraction and statistical assessment using SPSS Version 15.0.

References:

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