DRUG PRESCRIPTION IN AND HOSPITALIZATION OF REFRACTORY FOCAL EPILEPSY PATIENTS IN THE GERMAN NEUROTRANSDATA (NTD) NEUROLOGISTS’ NETWORK – IS THERE AN UNMET NEED?

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BACKGROUND:
Due to limited availability of cost data and underlying conditions on refractory epilepsy patients a small study was conducted based on data collected by the German NeuroTransData (NTD) neurologists' network.

METHODS:
Identification of patients within the database: We retrospectively estimated the annual hospitalization rate (HR) and medication for refractory focal epilepsy patients based on the NeuroTransData neurologists' network database (input from 79 neurologists, 34 centers, 1240 patients).

Ambulatory consultation rate: was recorded as number of visits per patient within six months.

Dosing and cost calculation: Dosing for all AEDs was recorded on the start and the end of the 6-months observational period. All calculations are based on the mean of this data at these points in time.

RESULTS:

Demographics:
Information on seizure frequency/refractory status

data were analyzed for the 6 months between May and October 2010. Related data included in the NTD-data base:

- demographic information, including work status
- seizure frequency/refractory status
- ambulatory consultation/hospitalization rate including causality and length of stay
- information on drug prescription

Comparison of drugs with/out patent protection:
Differences in calculation basis:

CONCLUSION:
To quantify annual drug costs and hospitalization rates (HR) of adult refractory focal epilepsy patients in Germany.

Ambulatory consultation rate:
was recorded as number of visits per patient within six months.

Dosing and cost calculation:
Dosing for all AEDs was recorded on the start and the end of the 6-months observational period. All calculations are based on the mean of this data at these points in time.

We report the distribution of AEDs in the population, number of drugs per patient, the average dosing per drug (incl. 95% confidence interval). This average dosing reflects the prescribing in the real world setting (RWS) and is compared with defined daily doses (DDD).

Drug costing was based on prices patient considering governmental clawbacks. Price level as in 2011.

Costs are reported for drugs prescribed in more than 5% of cases (with a comparison between RWS-based cost and DDD-cost) as well as per patient. Annual drug costs have been estimated by extrapolation.

Average Hospitalization rate (HR): was based on proportion of patients hospitalized within six months and extrapolated to one year. In addition mean duration of hospitalization and the distribution among the following reasons for hospitalization were recorded: emergency, new adjustment for medication, documentation of seizure, rehabilitation.

RESULTS:

- Mean age of 70 patients (31 male, 39 female) identified was 49.6 years. On average patients were epileptic for 21 years (median 19 years).
- Work status: 21 patients were working fulltime. 5 part-time. 18 patients were retired, while 14 were incapable of working. 16 people live from pension, 26 from welfare/unemployment compensation and 7 are on disability (local and secondary generalized) during the last six months of monitoring. 24% had more than 10 seizures, 16% had more than 20 seizures (see figure 1).
- Percentage of AEDs prescribed and average drug consumption:
- On average patients took 2.1 AEDs. Percentage of drugs that were prescribed in more than 5% of cases are shown in table 1. Overall patients took up to 13 different drugs in their disease history (see figure 2).

Levetiracetam was the most prescribed drug (seen in table 2). Differences in calculation basis:
- Duration of hospitalization:

Figure 1: Number of seizures patients suffer from

Figure 2: Number of AEDs taken in the past

Figure 3: Reasons for being hospitalized

DISCUSSION:
Due to limited availability of cost data and underlying conditions on refractory epilepsy patients a small study was conducted based on data collected by the German NeuroTransData (NTD) neurologists' network.

LIMITATIONS:
Due to the potential selection bias and the low number of analyzed patients these results must be seen as indicative. Especially looking at DDD the population observed might not be representative as refractory patients might be treated differently compared to other epileptic subpopulations.

CONCLUSIONS:
A 44% HR and a high average number of inpatient days (~1month) within 1year point to an unmet need for treatment optimization in refractory focal epilepsy patients. It indicates that patients receiving combination therapy of conventional drugs are often not well controlled, supporting the consideration of using more innovative drugs.

RESULTS:

- To quantify annual drug costs and hospitalization rates (HR) of adult refractory focal epilepsy patients in Germany.
- Ambulatory consultation rate:
- Dosing and cost calculation:
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