Frequency and Nature of Inpatient Treatment of Multiple Osteochondroma (MO) in Germany from 2016 to 2017

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Introduction:

- Hereditary multiple exostosis or multiple osteochondroma (MO) is an autosomal dominant, inherited disease, characterized by the multifocal occurrence of primarily benign osteochondromas.
- The typical localization close to epiphyseal plates may lead to reduction of longitudinal growth, mobility and pain. Causal are usually loss-of-function mutations in the genes EXT1 and EXT2 which are coding glycosyltransferases.
- An incidence of approximately 1:50,000 is currently assumed. It is estimated that 70% of the patients suffer from an inherited form, and 30% from new mutation. Individual expression of MO is very variable. The relevant treatment is surgical removal of osteochondromas and correction of deformities.
- Only few epidemiological data exist for Germany. MO has a specific ICD code (Q78.6). Here the inpatient stays were investigated for patients who were diagnosed with MO.

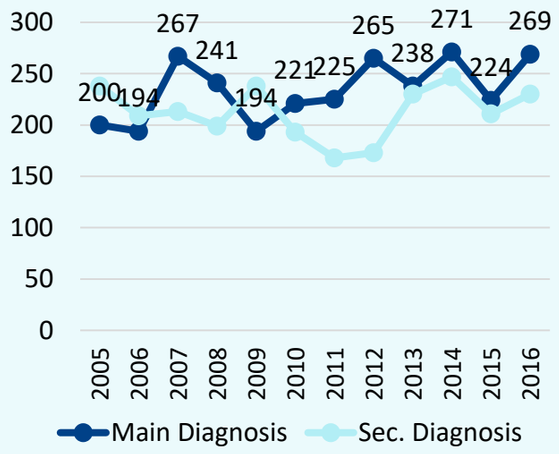
Methods:

- Data of inpatient care in the Federal Statistical Office 2005-2016, from of the Institute of the remuneration system in the Hospital (InEK) and quality reports for the year 2015 with MO codes were examined and evaluated.
- Microsoft Excel and Microsoft Access (version 2016) were used for analysis.

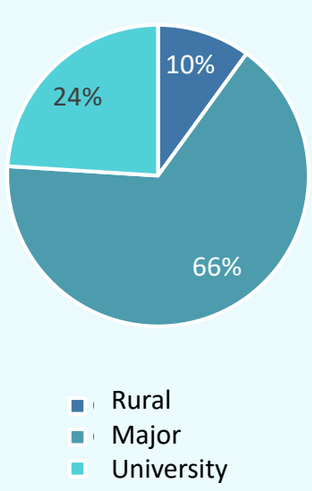
Results:

- In 2016 there were 269 hospital cases coded with MO as main diagnosis (2005: 200) and 230 cases with MO as a secondary diagnosis (2005: 238).
- The total number of cases in the observational period varied between 393 and 518, lately slightly rising.
- The patients were treated in 87 different in-patient facilities, almost exclusively (95%) in surgical and orthopaedic departments.
- Surgical DRG of muscular and skeletal system have been coded in 97% of cases. 24% of cases were treated in university facilities.
- The average age of the inpatients was 18.5 years, median 20 years (only main diagnosis). Male patients were on average 17.7 years old, female 20.1 years.
- There is a gap in the transition age from 20 up to 25 years of age.
- 64.3% of cases concerned male patients in 2016. This share was observed constantly over the observational period.
- Also constantly was found that male patients were re in average two years younger than women when operated.
- The average length of stay was the same for both sexes, 4.1 days.

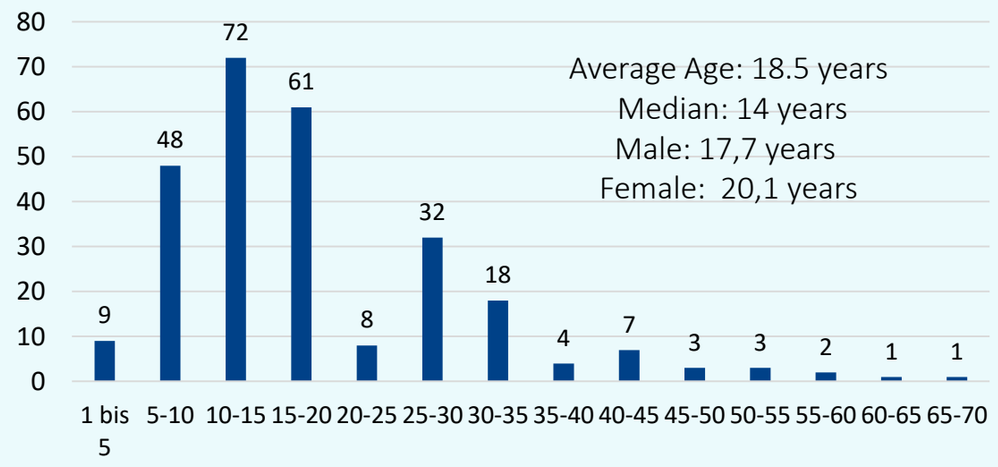
Annual inpatient MO cases



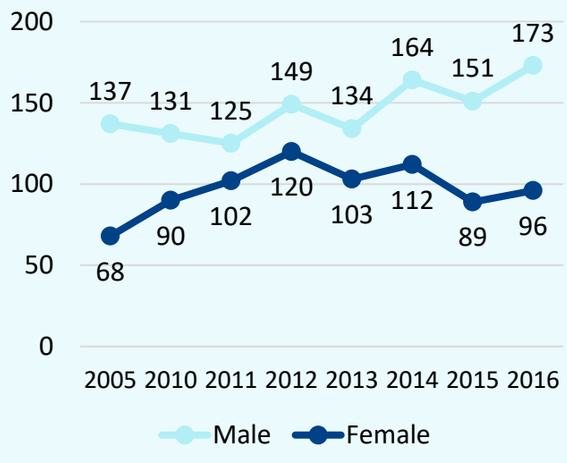
Type of Hospital



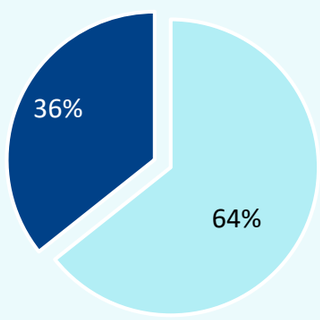
Age distribution of MO cases in 2016



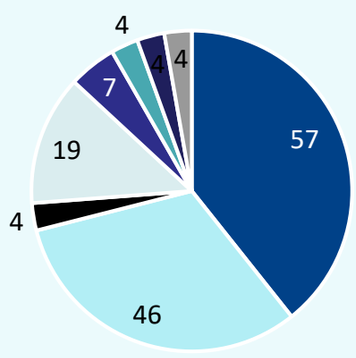
Gender Distribution MO



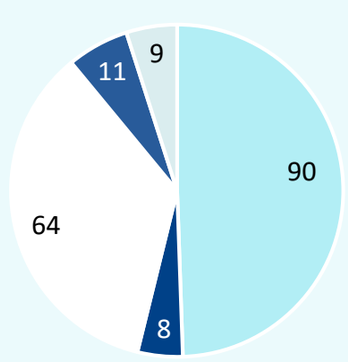
Shares 2016



DRG for MO cases 2016



Departments 2016



Conclusions:

- MO is an orphan disease. The need of inpatient surgery for MO patients was very constant over the observational period of 12 years.
- Unexpectedly for an autosomal diseases is the unequal distribution of the sexes and the slightly earlier age of men in inpatient procedures.
- The age gap in the young adults could be due to lack of a disease-specific transition program.
- No robust information on actual prevalence can be derived from such hospital case data. Further research and systematic evaluation e.g. as part of a registry could provide more detailed information.

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