Iron treatment was stratified by oral iron, low dose (<1000mg per year) IV iron and high dose IV iron. The treatment of iron deficiency/anaemia in patients with non-dialysis chronic kidney disease in Germany – A Claims Database Analysis.

Background

- The prevalence of Iron Deficiency/Anaemia (IDA) in chronic kidney disease (CKD) patients ranges from 8% to 33% depending on the respective CKD stage, also showing occurrence in chronic kidney disease patients who are not on dialysis.
- If left untreated, IDA is associated with reduced functional capacity, poor quality of life, and increased mortality.
- In patients receiving haemodialysis, iron deficiency has been shown to be significantly more effective than oral iron for replacing depleted iron stores and improving haemoglobin levels. However, in patients with ND CKD, the evidence base supporting optimal iron management is not as strong.1

Objectives

- This study aimed at comparing health-related outcomes and healthcare costs of ND CKD patients with comorbid IDA, who receive different types of iron treatment in Germany.

Methods

- A retrospective claims database analysis was conducted using the “Institut für angewandte Gesundheitsforschung Berlin® (iNge) research databases.
- The database comprises anonymized healthcare claims of approximately 4 million covered lives insured in the Statutory Health Insurance (SHI) in Germany.
- The sample represents 4.8% of the German population and about 5.6% of the German SHI population and is structured to represent the German population in terms of age and gender (structure of age and gender according to the Federal Office of Statistics (DESTATIS)). It has also proven to have good external validity to the German population in terms of morbidity, mortality and drug use.
- Data from January 1st, 2013 through September 30th, 2015 was used for this analysis.
- The enrolment period for the patient selection spanned from January 1st 2014 through December 31st, 2014, to allow for an individual pre-index period of 4 quarters (Q1 2013 to Q4 2014) as well as an individual post-index period including the index quarter (defined as the first observable iron prescription in 2014) and 3 consecutive quarters (Q1 to Q3 2015).
- ND CKD patients stages 3 and 4 with IDA were identified by ICD-10-GM codes N18.3 and N18.4 for CKD and D505.0 (except D505.0 D505.8 and D505.9) for IDA. Patients were excluded if they had any Operation and Procedure (OPS) code or any Physician’s Fee Scale within the Statistical Health Insurance Scheme (EBM) code for dialysis from January 1st, 2014 through December 31st, 2014.
- Incident iron treatment which was identified based on Anaesthesiological Therapeutic Chemical Classification (ATC) codes and Pharmacy Central Numbers (PZN) defined the index quarter in 2014.
- Iron treatment was stratified by oral iron, low dose (<100mg per year) IV iron and high dose (>1000mg per year) IV iron (see Figure 1).

Results

- In total, n=1,840 ND CKD patients with comorbid IDA receiving oral iron treatment, n=150 low dose IV iron treatment, and n=41 high dose IV iron treatment were identified in the database in the enrolment period.
- Out of those patients with high dose IV iron treatment, all were treated with Ferric Carboxymaltose.
- After propensity score matching, each of the three treatment cohorts (4a, oral iron, 4b* low dose IV iron and 4c* high dose IV iron) had similar age and sex distribution (see Tables 1 and 2).
- Differences were observed concerning all-cause hospitalisations (oral iron vs. high dose IV iron (89.2% vs. 71.8%, p=0.027)). Furthermore, both oral ND CKD-related hospitalisations were highest in the matched oral iron cohort (CV-related: oral iron vs. low dose IV iron (84% vs. 76%, p=0.043) ND CKD-related oral iron vs. low dose IV iron (75% vs. 62%, p=0.036) (see Figure 2).
- IDA-related hospitalisations (oral iron vs. low dose IV iron (51.4% vs. 24.3%, p=0.027) and oral iron vs. high dose IV iron (51.4% vs. 29.7%, p=0.046) were significantly lower (see Figure 2).

Conclusions

- The results showed that the use of high dose IV iron treatment was associated with highest cost savings compared to oral and low dose IV iron.

Reference