PROTOCOL BASED USE OF POTASSIUM BINDERS IN INTERNAL MEDICINE WARDS IS ASSOCIATED WITH DECREASE IN TREATMENT RELATED ADVERSE REACTIONS

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Introduction

- Hyperkalemia is a common, potentially life threatening disorder.
- Potassium binders (e.g. sodium polystyrene sulfonate = Kayexalate) are the mainstay of hyperkalemia treatment regimens.
- Use of potassium binders is associated with potential adverse reactions (electrolyte disorders, gastro-intestinal side effects) and drug-drug interactions.
- However, there is no protocol for the use and monitoring of these drugs in our institution, nor did we find such published guidelines.

Aim

- To evaluate safety of non-protocol based treatment of hyperkalemia using kayexalate in internal medicine wards.
- Our hypothesis was that repeat administration of the drug is associated with higher toxicity than single administration and monitoring.

Methods

- Retrospective observational study.
- Inclusion criteria:
  - The study included all patients treated with kayexalate during the year 2013 in internal medicine wards.
  - Patients were divided according to initial computerized treatment order: ‘ONCE’ order (repeated according to lab results), or ‘CONSTANT’ order (x1/day, or x2/day, etc).
- Exclusion criteria: 1. Chronic treatment 2. Death during treatment

Results

- We found significant inter and intra-ward differences in preference of treatment regimens.
- Regimen choice of CONSTANT orders was associated with higher pre-treatment potassium levels (p<0.0001).
- A total of 91 hypokalemia events were documented. Hypokalemia events were significantly more common in CONSTANT vs ONCE treatment regimen (23.85% vs 6% respectively, p<0.0001).
- Hypokalemia events were significantly more frequent in higher pre-treatment potassium levels.
- Mean number of doses given until normokalemia was 1.2 doses, while mean total number of doses was 3.9 doses.

Conclusions

- Lack of treatment protocol is associated with significant inter and intra-ward differences in treatment and monitoring regimens.
- Treatment using CONSTANT regimens is significantly associated with superfluous doses and higher treatment related hypokalemia.
- In light of these findings we developed and implemented institutional treatment protocol. The post-intervention data is being processed – final results pending.
- So far the results show significant decrease in number of treatment related hypokalemia events.