



KALAEMIA DISORDERS: A WARNING FOR CLINICAL PHARMACISTS ?



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Introduction : Reviewing high-risk patients' medication orders must be a priority. Because of their cardiac consequences, kalaemia disorders represent a high risk of iatrogenic events. They could be prevented through appropriate medical treatment and close surveillance. Clinical pharmacists are a link in the medical chain and can help to optimize the dyskalaemic patients' medical care.

Objectives: Analyse the impact of pharmacists' alerts on patients with dyskalaemia and thus show that their prescriptions must be reviewed with priority.

Methods :

- ➔ Prospective study conducted in 2 medical units (neurology and pneumology) and a surgery department
- ➔ Review of every prescriptions during 4 months with a computerized physician order entry (CPOE) system
- ➔ Identification of dyskalaemic patients (Hypo/hyperkalaemia defined on biological laboratory limits)
- ➔ Codification of therapeutic problems and pharmacists' alerts according to the French Clinical Pharmacy Society's coding tables (SFPC).
- ➔ Follow-up of physician's acceptance of the alerts (We considered an alert as « accepted » when the prescriber changed the prescription in agreement with the pharmacist's advice)

Results :

Kalaemia disorders and pharmaceutical interventions

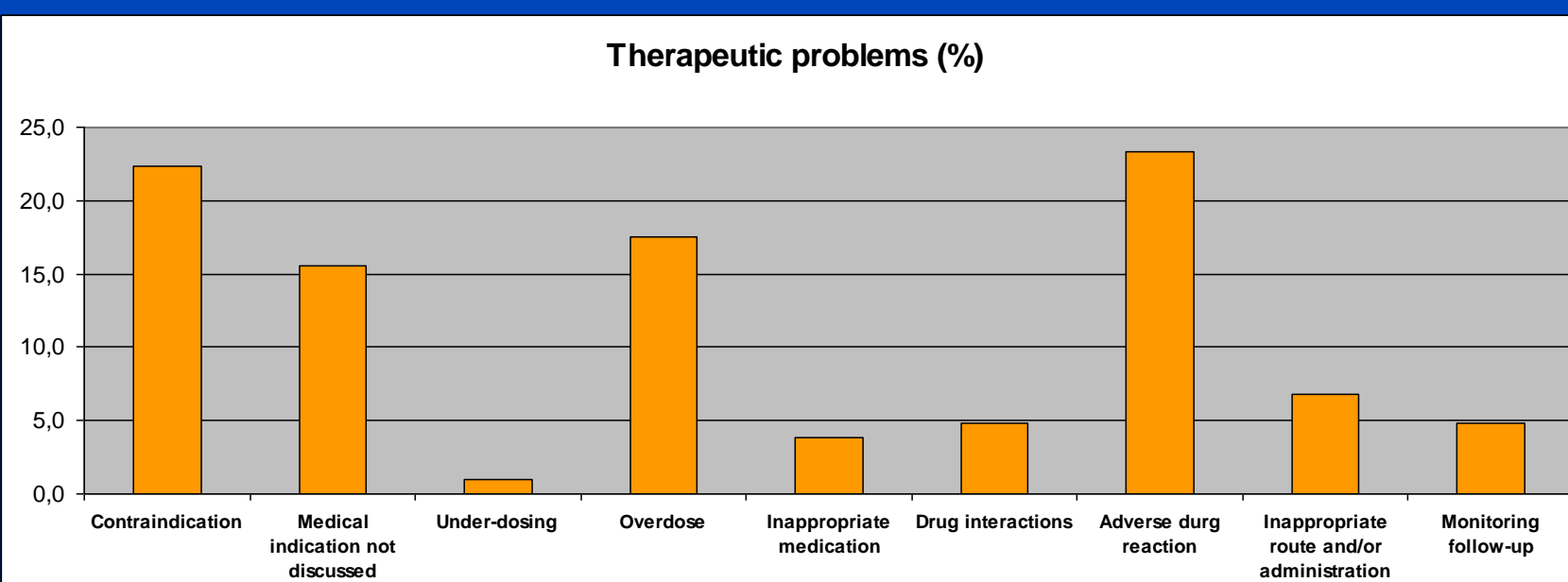
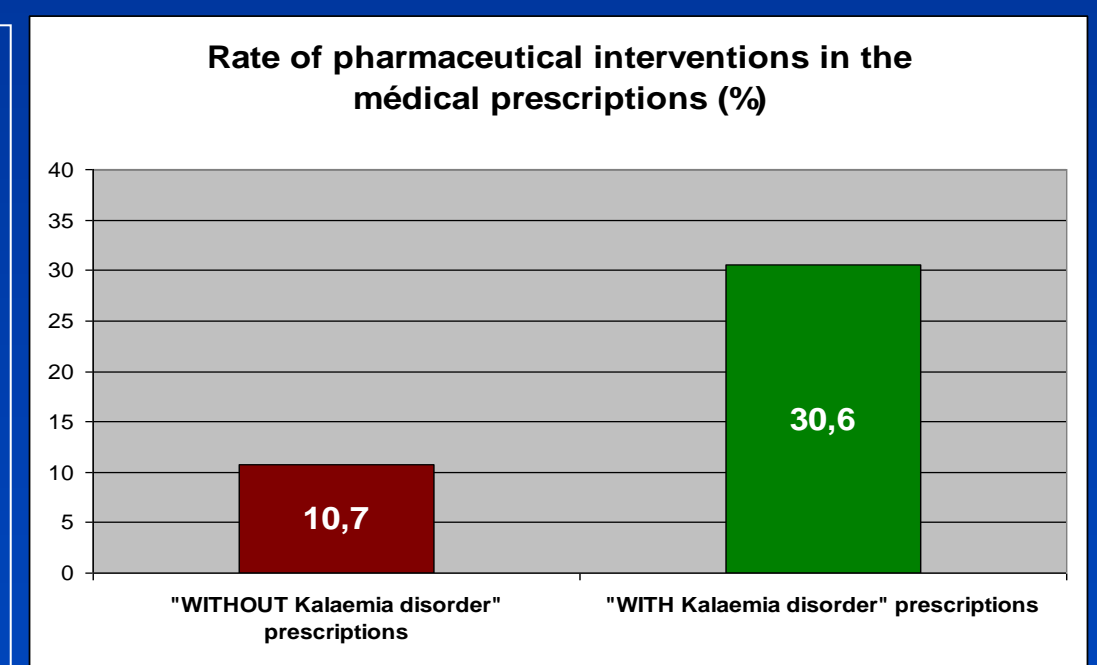
873 patients included in the study

3016 prescriptions analysed

➔ 159 patients with kalaemia disorder (18%)

➔ 337 prescriptions analysed for these patients

➔ 103 pharmaceutical interventions (PI) ➔ a PI rate of 30,6%

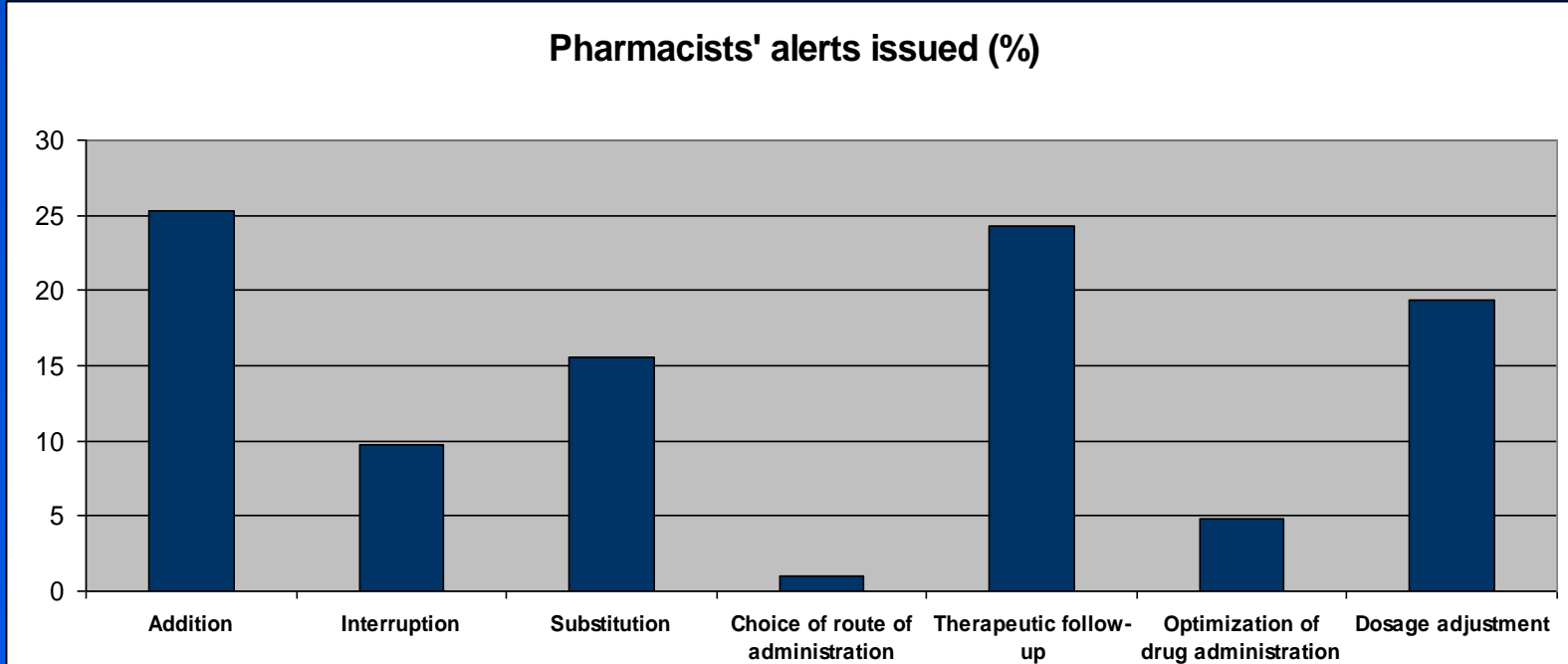


Therapeutic problems

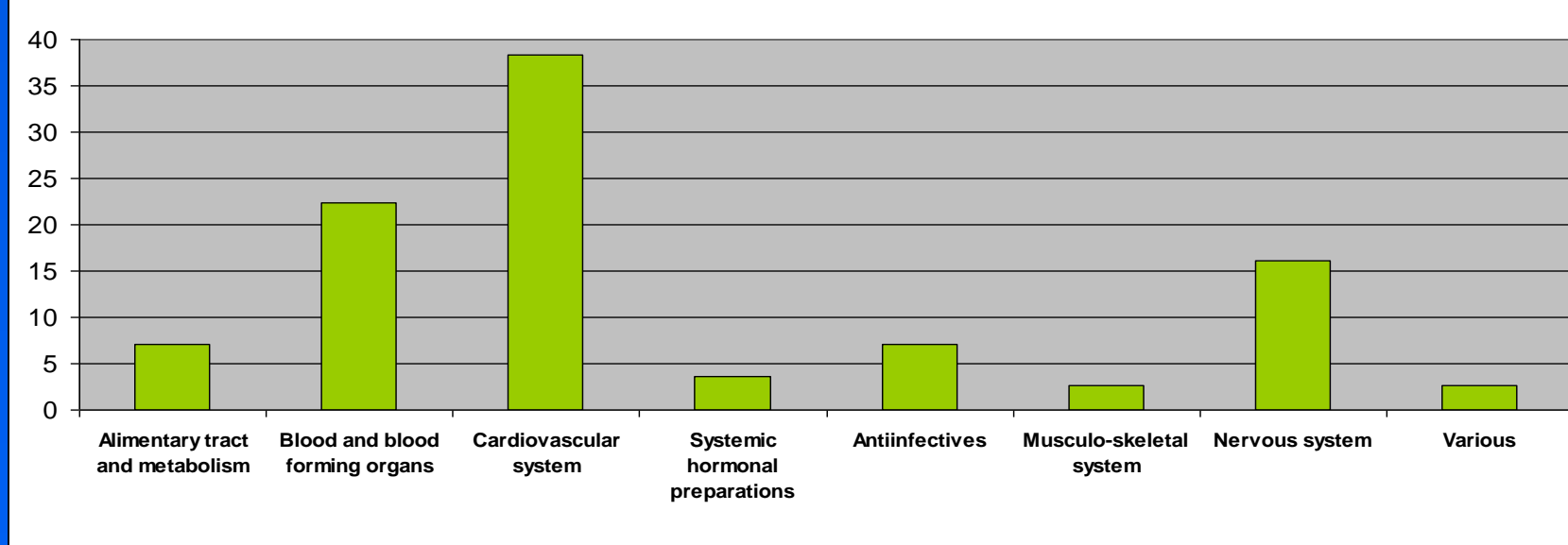
Adverse drug reactions are the most frequent therapeutic problems (23%) with contraindications (22%). Overdosage (18%) and medical indications not discussed (16%) come on tail.

Pharmacists' alerts

Drug addition demands (25%) are the most issued pharmaceutical interventions, followed by monitoring demands (24%) and dosage adjustment requests (19%).



Drugs involved in prescribing errors (%)



Drugs involved

Cardiological drugs are predominant (38%). Hematology class of drugs is deeply involved in PI too (22%) but it only consists on solutions affecting the electrolyte balance as in particular solutions with potassium.

Physicians' acceptance

Ten patients left the medical units before the processing of pharmacists' alerts. On the remaining prescriptions, physicians accepted 79% of the PI and modified their prescriptions accordingly.

Discussion-Conclusions :

➔ PI Rate is statistically superior on dyskaliemic patients' prescriptions (30,6%) against non dyskalaemic patients' prescriptions (10,7%) ($p < 10^{-6}$)

➔ If we considered that the rate of PI is associated with the presence of a risk, prescriptions of patients with kalaemia disorders are more at risk of prescribing errors.

➔ The high physicians' acceptance demonstrates how important and relevant the pharmacists' alerts are.

Hypo or Hyperkalaemia consequences can be fatal for the patient, especially in the elderly and/or the polymedicated patients. Prescriptions of the dyskalaemic patients must be first and foremost analyzed by the clinical pharmacist.