Identification of risk factors associated with hospital potentially preventable readmissions

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Background & objective

Potentially preventable readmissions (PPR) occur in nearly 5-10% of Swiss inpatients. Patients at high risk of readmission should be identified early during their hospital stay, in order to benefit from specific interventions to prevent these readmissions.

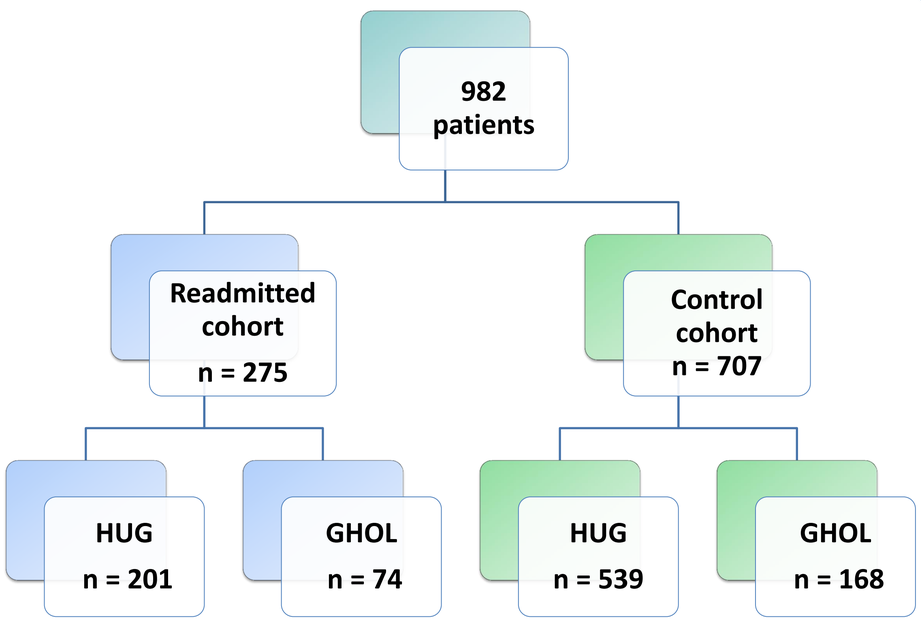
The aim of the present study was to characterize the profile of patients readmitted in Swiss hospitals, including a focus on medication profiles.

Method

- Retrospective case control study ; data 2011 ; matched on age and sex
- General medicine patients hospitalized in GHOL (Nyon) or in HUG (Geneva)
- Readmitted patients identified with SQLape algorithm → potentially preventable readmissions
- Identification of risk factors with multivariate logistic regression performed on 4 preset groups of variables : demographic data, diagnosis, lab results and medications.
- Outcome : 30 days potentially preventable readmissions

Results

Study flow-chart



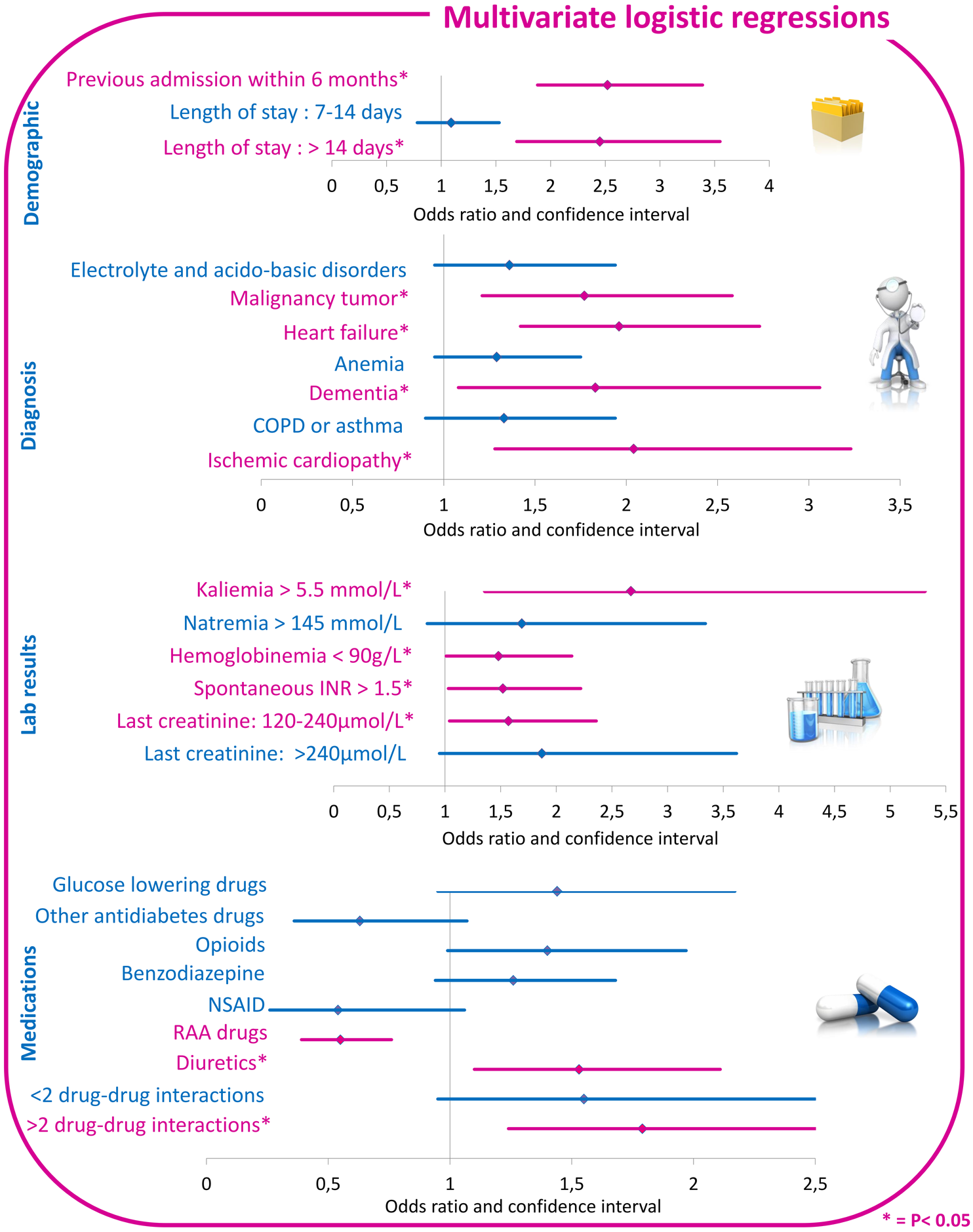
Population description	Readmitted cohort n =275	Control cohort n = 707
Age*	69.1 years	68.8 years
Male*	60 %	60 %
Length of stay	11.0 ± 8.1 days	8.3 ± 6.3 days
Charlson comorbidity index	4.1 ± 3.0	2.8 ± 2.6
Nb. discharge medications	9.8 ± 4.9	8.9 ± 4.4
Nb. risk drugs #	4.2 ± 2.5	3.8 ± 2.2
Nb. drug-drug interactions	0.9 ± 1.4	0.6 ± 1.5

Results presented as mean ± SD, if not otherwise specified.

* Matched criteria

\# Risk drugs include : anticoagulants, anti-agregants, antidiabetic drugs, BZD, opioids, NSAID, cardiovascular drugs, antipsychotic, anti-infective agent.

Multivariate logistic regressions



Conclusion

This Swiss retrospective study identified several factors significantly associated with PPR and routinely available during hospital stay that might help to identify patients at risk of readmissions. These preliminary results will be the basis for the development of a predictive tool that could further be used by clinical pharmacists to target their interventions on specific patients presenting a panel of readmission risk factors.

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Authors report no conflict of interest
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