Potential drug-drug interactions and metabolic or transport pathways disturbed in hospitalized elderly patients

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Background

Polypharmacy in elderly patients → Associated with a **high potential fordrug-drug interactions**

Different cytochrome P450 (CYP) isoforms and transporters may be involved and variously disturbed

The aim of our study was to identify frequently disturbed metabolic or transport pathways in geriatric patients and to identify involved drugs.

Settings and method

From a multicentric cohort of hospitalized elderly patients

Analyse of drug prescriptions on a given day

Following inhibitors and inducers of metabolic and transport pathways were investigated

Drugs involved were identified

Were excluded: dosage forms with low systemic absorption (ointments, drops and inhalants)

CYP 1A2 CYP 2C19 CYP 2B6 CYP 2D6 PgP CYP 2C8 CYP 2E1 CYP 2C9 CYP 3A4

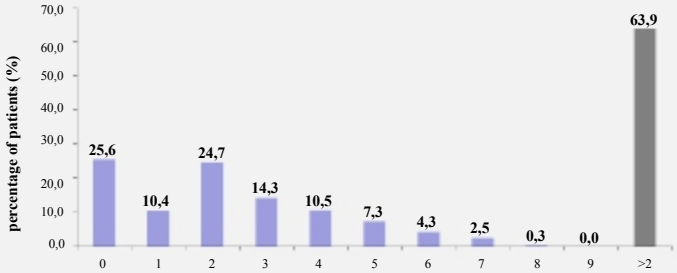
Results

Number of prescriptions analysed	672	
Sex ratio (M/F)	200/472	
	Mean	Standard deviation
Age (years)	85,9	7,5
Mean number of drugs	7,8	3,2

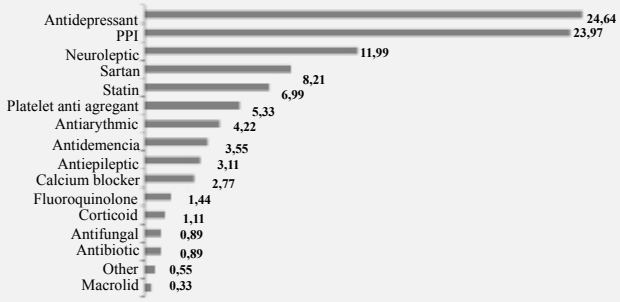
Mean metabolic or transport pathways potentially disturbed

→ **2.3 (SD= 1.9)**

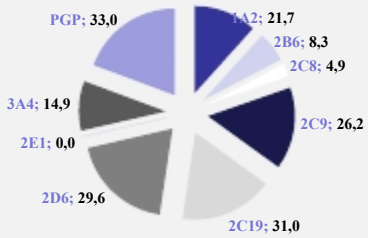
Two disrupted pathways for **63.9%** of patients



number of metabolic or transport disturbed pathways (% of patients)



Drugs involved (%)



Metabolic or transport pathways involved (%)

Discussion

Prescribed drugs for elderly people → significant number of metabolic or transport pathways disrupted

New prescription in elderly: high risk of potential drug- drug interactions → **could lead to overdose, side effects or ineffective treatment**

Frequent used of most involved drugs → questions about the **safety** of their use in the elderly

introduction of a new drug in these frail and polymedicated patients:

→ should always be **carefully** considered in terms of potentially disturbed metabolic or transport pathways