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Clinical risk management in patients with (risk of) impaired renal function

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Impaired renal function

- Renal function determined by glomerular filtration rate
- GFR often estimated by MDRD formula
- Estimated GFR below 50 ml/min
- ~ 1 million people with impaired renal function in the Netherlands
- Risk factors for impaired renal function



Consequences impaired renal function

- Impaired renal function affects pharmacokinetics
- Medicines can decrease renal function
- Early detection of impaired renal function may prevent drug related problems



Monitoring of renal function

- Renal function of patients using high risk medication* is not systematically monitored
- Data on renal function are frequently not exchanged between different care providers
- Important role for community pharmacist in clinical risk management of patients with impaired renal function

**Considered drugs with high risk of nephrotoxicity in our study based on guidelines of Royal Dutch Pharmacy Association*



Purpose of the project

- To assess **availability of information** on renal function in patients using high-risk medication
- To describe **current procedures** regarding clinical risk management of patients using renally excreted drugs
- To **increase awareness** of pharmacists on systematically collecting information on renal function



Methods

- Development protocol
- Training of students and pharmacists
- Data collection in pharmacies by internship students



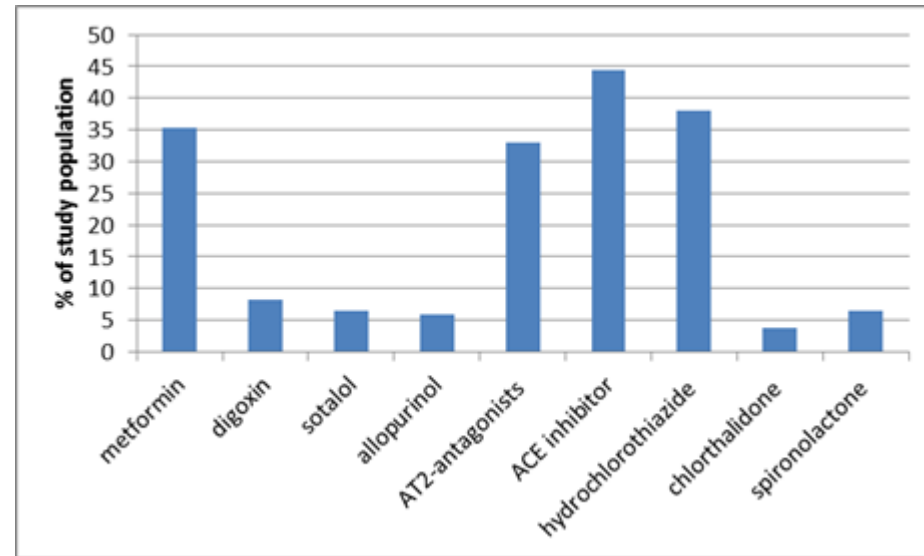
Data collection in pharmacies

- 25 adult patients aged ≥ 65 years using at least one high risk drug
- Availability of information on renal function for selected patients
- Description of current process in pharmacy
- Adjustment of protocol based on experiences of students and pharmacists



Results

- In 42 pharmacies data collected from 1239 patients
- 47.0% males
- Mean age 76.5 years
- 19% uses 3 or more risk medicines at the same time





Availability of information

- Information on renal function for 1048 patients (84.6%)
 - For 318 patients information in the pharmacy
 - For 735 patients information from GP
- Based on different cut-offs, for patients with known renal function, renal function was decreased in
 - 144 patients (14%) using MDRD <45 ml/min
 - 197 patients (19%) using MDRD <50 ml/min
 - 393 patients (38%) using MDRD <60 ml/min
- Decreased renal function associated with age and medication use



Current procedures

- Pharmacies used different cut-offs for renal impairment
 - 25 pharmacies (54.8%) used MDRD <60 ml/min
 - 14 pharmacies (33.3%) used MDRD <50 ml/min
- Collection of information on renal function
 - 74% signal from system and unknown renal function
 - 69% signal from system and no up-to date renal function
 - 31% for certain medicines
 - 21% for older patients
- Most pharmacies exchange information per telephone (71%) or fax (40%)



Conclusion

- Information on renal function is often unknown in the community pharmacy, whilst for many patients information is available at the GP
- Exchange of information should be improved to increase medication safety
- With this study we aimed to increase awareness of pharmacists on the importance of monitoring



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