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"Use with caution in renal impairment" - implications for drug dosing in the general practice setting

Margaret L. Jordan

Woonona Medical Practice, mjordan@uow.edu.au

Adele F. Stewart

Woonona Medical Practice, adeles@uow.edu.au

Julie M. Blaze

Bulli Medical Practice, jblaze@uow.edu.au

Jeffrey G. Hall

Bulli Medical Practice, jeffreyh@uow.edu.au

Haley Frew

Woonona Medical Practice, hkf996@uowmail.edu.au

See next page for additional authors

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"Use with caution in renal impairment" - implications for drug dosing in the general practice setting

Abstract

Abstract of a poster presentation at the 2016 National Medicines Symposium, 19-20 May, Canberra, Australia.

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Authors

Margaret L. Jordan, Adele F. Stewart, Julie M. Blaze, Jeffrey G. Hall, Haley Frew, and Judy Mullan



379 - “Use with caution in renal impairment” – implications for drug dosing in the general practice setting

Jordan M¹, Stewart A¹, Blaze J², Hall J², Frew H¹, Mullan J³

¹Woonona Medical Practice, ²Bulli Medical Practice, ³School of Medicine, University of Wollongong

Introduction: The number of medicines requiring attention in declining kidney function, and prescribed by GPs, is growing. A clinical pharmacist was integrated within a general practice, to investigate the management of anticoagulants. The results highlighted the implications of using readily available estimates (uncorrected Glomerular Filtration Rate, “eGFR”) for dosing of the non-vitamin K antagonist oral anticoagulants (NOACs) and informed a second project in a separate practice.

Aims: To describe how kidney function is assessed in two general practices, the implications on use of renally-excreted medicines and the impact of a pharmacist.

Methods: Two general practice research projects were undertaken. Study 1 investigated the impact of the pharmacist on the management of warfarin and NOACs, compared to the results from a retrospective review. Study 2 assessed appropriateness of medicine management in patients over 65 with impaired kidney function, before and after pharmacist input. Medicines most commonly prescribed were targeted. Estimates of kidney function were compared (eGFR and calculated creatinine clearance [eCrCl]) in both studies.

Results: Study 1: Prior to pharmacist input, eGFR was used to guide drug-dosing of NOACs: usage was appropriate for 50% patients compared to 100% at the study close ($P = 0.0245$). Study 2: The appropriateness of management of the target medicines (pregabalin, NOACs, antidiabetic agents, statins, digoxin) improved from 42% to 88% ($P < 0.0001$) despite similarities in measures of kidney function ($P = 0.4872$). The means of kidney function metrics (eGFR vs eCrCl) differed significantly from each other in both stages: $63\text{mL/min}/1.73\text{m}^2$ vs 47mL/min ; ($P < 0.001$.)

Implications for practice change: Significant differences in the estimates of kidney function lead to discrepancies in drug dosing, particularly for the NOACs. GPs have an ever-increasing range of medicines to manage, with competing sources for guidance. The input of a clinical pharmacist can improve the management of medicines in kidney impairment in general practices.

