

Pharmacologic Aspects of Renal Drug Clearance in the Elderly Patient #7

Pharmacological Considerations

	Considerations	Adverse Effects	Action
ACE-Inhibitors and ARB's	Interferes with autoregulation of renal blood flow	Hyperkalemia, decreased GFR	Check K ⁺ and GFR one week after starting medication.
Antibiotics (Aminoglycosides, Vancomycin)	Chronic comorbidities such as CHF, HTN, and DM predispose to development of severe tubular injury.	Decreased GFR (elevated S _{Cr}), ATN, ototoxicity	Evaluate renal function prior to starting therapy (MDRD). Consider pharmacologic profiling. Avoid combinations with potentially nephrotoxic medications.
NSAID	Interferes with autoregulation of renal blood flow	Decreased GFR, ATN, falls, GI bleeding	Consider alternative analgesic or adjuvant therapy (ice/heat packs), monitor renal function
Opiates	Morphine, meperidine, dextropropoxyphene or their metabolites can accumulate.	Altered mental status, respiratory depression, hyponatremia (SIADH)	Consider regular doses of long acting +/- prn breakthrough doses. Reassess every 3-5 days Preferred opiates include hydromorphone and fentanyl.
Oral Hypoglycemics (Glyburide, extended release glipizide)	Long acting sulfonylureas	Hypoglycemia	Consider using shorter acting sulfonylurea (glimepiride)
Radiocontrast	Chronic comorbidities such as CHF, HTN, and DM predispose to development of severe tubular injury.	Decreased GFR (elevated S _{Cr}), ATN	Evaluate renal function prior to use of contrast. Consider pre-procedure IV hydration, N-acetylcysteine, Vitamin C, or iso-osmolar contrast.