Managing psychotropic drugs in patients with renal impairment

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INTRODUCTION
The kidney is an important route of drugs elimination and its renal functioning must be evaluated before prescribing any psychotropic drug. Patients with a decreased renal function have a lower capacity to excrete drugs and are more prone to drugs toxicity. There are few clinical studies concerning the use of psychotropic drugs in patients with renal failure. The aim of this work is to review the literature regarding the use of psychotropic medications in patients with renal impairment (RI).

METHODS
The authors searched for articles related with this theme, written in English and published in the last 10 years, using PubMed®. Also it was included information from The Maudsley Prescribing Guidelines in Psychiatry.

GENERAL PRINCIPLES
- For patients with RI, glomerular filtration rate (GFR) must be calculated and the stage of RI classified
- Elderly patients are assumed to have some degree of RI
- Use few drugs as possible
- Start with low dose and increase slowly, due to prolonged half-life and decreased plasma clearance in RI
- Check for interactions and monitor for adverse side effects - they are more frequent and more pronounced in patient with renal failure
- Avoid drugs known to have strong anticholinergic effect and/or to prolong QTc interval
- Monitor weight - diabetes can cause rhabdomyolysis and renal failure

MAIN DRUGS GROUPS

Antidepressants
- The majority are hepatically metabolised
- In general, can be used with no need of dose adjustment in mild/moderate RI (GFR≥30mL/min)
- SSRIs are preferred over other antidepressants (equally effective, favourable side effect profile)
- Monitor for serotonin syndrome

Anxiolytics
- Benzodiazepines are solely metabolized in the liver and do not usually require dose adjustment in renal failure
- Selection of a benzodiazepine should be based on its pharmacokinetic profile

Mood Stabilizers
- Lithium is nephrotoxic and extensively renally cleared
- Its dose should be reduced in RI
- It is largely removed by dialysis; a single dose given post-dialysis is enough to keep steady-state plasma levels
- Valproate, carbamazepine and lamotrigine may be started at a low dose and increased slowly

TAKE HOME MESSAGES
- SSRI are 1st line choice
- Sertraline and Citalopram are reasonable choices
- Fluoxetine is efficacious and well tolerated in dialysis patients
- Haloperidol and olanzapine in low doses are the safest options
- Avoid sulphirde and amisulpiride
- Avoid depots. If used, a titration with oral formulation must be done.
- Avoid lithium in RI if possible
- If not possible, a dose reduction must be made
- Use valproate, carbamazepine or lamotrigine with caution
- Risk of excessive sedation, use with caution
- Lorazepam is a reasonable choice

CONCLUSIONS
Renal failure exerts a direct impact on psychotropic drugs pharmacokinetics. These medications can accumulate and lead to more severe side effects, toxicity or even death. Both safety and efficiency of each psychiatric drug must be analysed before its prescription and used with caution, following the principle start low, go slow.