

DRUG & THERAPEUTICS LETTER



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Drug Information Unit (DIU)
Department of Clinical Pharmacology
Tribhuvan University Teaching Hospital
Institute of Medicine, Maharajgunj, Kathmandu.



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Atypical Antipsychotics

The term atypical in antipsychotic therapy refers primarily to its low propensity to induce extrapyramidal adverse effects.

Atypical antipsychotic drugs effectively treat psychosis at doses which do not induce extrapyramidal adverse effects.

In contrast, conventional (typical) antipsychotics tend to cause extrapyramidal adverse effects at therapeutic doses. But it should also be born in mind that extrapyramidal effects do occur with some atypical drugs like risperidone, olanzapine and

amisulpride if the dose is increased beyond the therapeutic range.

All conventional antipsychotics, risperidone, amisulpride and to a small extent olanzapine cause hyperprolactinemia. In contrast, clozapine, quetiapine and aripiprazole do not elevate serum prolactin concentration.

Atypical antipsychotics can cause other serious adverse effects as does conventional antipsychotics. Clozapine is associated with agranulocytosis, cardiomyopathy and convulsions. Due to these toxicities, clozapine should be prescribed only under close monitoring.

Clozapine and olanzapine are particularly prone to cause weight gain and may be associated with diabetes mellitus and hyperlipidaemia.

Atypical antipsychotics like clozapine, amisulpride, risperidone and olanzapine have established superiority over conventional drugs to reduce

negative symptoms of schizophrenia. Though they are also found to be superior to abate positive symptoms, the effect are modest and may not be seen in some individuals.

It is possible that the benefits for negative symptoms occur at least partly through the reduction in extrapyramidal adverse effects. Atypical antipsychotics are also more beneficial than conventional drugs for cognitive dysfunction.

Sources:

- Keks NA. Are atypical antipsychotics advantageous? *Australian Prescriber* 2004; 27 (6): 142-5
- Baldessarini RJ and Taraji FI. Drugs and the treatment of psychiatric disorders. In: Hardman JE and Limbird LE. *Goodman and Gilman's The Pharmacological Basis of Therapeutics*. 10th edition. New York: McGraw-Hill. 2001: 485-520.

Brief Information:

Probiotics to Decrease Antimicrobial Use

Antimicrobial is one of the most commonly prescribed groups of drugs these days. Heavy use of antimicrobial is leading to serious problems with resistance and there is an compelling

need to investigate alternative approaches to prevent and treat infections. One alternative approach is the use of "probiotics" - live microbes, such as yeast or bacteria, which are beneficial to their host. Evidence is accumulating that the use of appropriate probiotics may provide a viable alternative to, or adjunct to, antimicrobial for the prevention and treatment of certain infections. The uses of probiotics include acute diarrhoeas, rotaviral diarrhoeas, irritable bowel syndrome and atopic dermatitis etc.

Studies have been carried out to know how probiotics may afford benefit to the host. Limiting the access of microbes associated with the development of disease to host mucosal surfaces and altering the responses of host to microbial insults are potential mechanisms whereby probiotics can influence the pathogenesis of disease. However, the mucosal exclusion is not just through direct blockage of shared epithelial receptors between probiotic microbes and pathogenic organisms. The modulation of mucosal defenses such as innate protective mechanisms, enhanced epithelial cell survival, and immune responses have all been shown to have potential in aiding in these actions.

The largest literature providing evidence for probiotic efficacy is the concurrent use of probiotics with antimicrobial to decrease antimicrobial-associated diarrhoea. Several probiotics have shown efficacy in preventing antimicrobial associated diarrhoea, for example, in hospitalized adults (*Saccharomyces boulardii*) and in ambulatory pediatric patients (*Lactobacillus rhamnosus* GG). It has also been found to be effective in prevention of respiratory tract infection, otitis media and traveller's diarrhoea.

While the traditional use of probiotics (mainly as yogurts) to prevent vaginitis is popular, there is a surprising paucity of controlled trials evaluating this practice. Some preliminary findings indicate some potential for *Lactobacillus*-based probiotics to prevent recurrent urinary tract infections, bacterial vaginosis and *Candida* vaginitis.

It is hoped that the recent promising results discussed will be a stimulus for priority funding in this area, not only with the goals to decrease morbidity, but also to decrease antimicrobial use. Once the role of probiotics in therapy is better understood, the next approach will then be to optimize probiotic action through genetic engineering. These

“living drugs” may help in the fight to decrease antimicrobial resistance.

Intravenous Potassium Chloride: An Alert !

When it is used judiciously, potassium chloride is a life saving drug for patients with hypokalaemia. In the other hand there have been some case reports where patients have died in hospitals after being mistakenly injected with potassium chloride instead of normal saline.

The risk associated with intravenous potassium chloride are well known. If it is injected too rapidly or in too high a dose, it may cause cardiac arrest within minutes.

Hence, it is advised to assess the storage of potassium chloride ampoules and premixed solutions to ensure they are stored separately and are readily identifiable from preparations with similar packaging.

Medication incidents associated with intravenous potassium chloride tend to occur due to inadvertent selection and administration of an ampoule of potassium chloride in place of another drug with similar appearance, or due to an error in preparation or administration.

Question Answering Service

After resumption of the services of Drug information Unit (DIU) in September 2004, following drug related queries have been obtained

Question Category	Drug	Inquired by	Department / Address	Mode of Inquiry
Adverse drug reaction (ADR)	Mitomycin	Consultant	ENT	Person to person
Drug preparation	Insulin	Consultant	Anaesthesia	Telephone
Indication / DTD*	Atropine	House Officer	ICU	Telephone
Reference	Mephentermine	Post-graduate	General Practice	Person to person
Drug dose	Metformin	Medical Rep.	Pharmaceutical Company	Person to person
Details of a drug	Aspirin Dipyridamole Ticlopidine Clopidogrel Abciximab	Consultant	Internal Medicine	Person to person
Details of a drug (For Medico legal purpose)	Amlodipine Enalapril Diazepam Pheniramine Buprenorphine	Central Police Scientific Laboratory	Crime Investigation Department, Police Head Quarter	Letter

*DTD = Drug treatment of a disease

"Drug and Therapeutics Letter" is also available now in the following websites : <http://www.teachinghospital.org.np/diu.html>, <http://www.iom.edu.np/diu.html>

Chief Editor : Prof. Kumud Kumar Kafle

Editors : Dr. Sanu Maiya Shakya, Dr. Sangha Ratna Bajracharya, Dr. Yatin M Shivkar, Department of Clinical Pharmacology, Drug Information Unit (DIU), Room Number: 1-85, Doctors' Room Block, TU Teaching Hospital, P.O. Box 3578, Maharajgunj, Kathmandu. Phone no. 4412404 Extn 1093, E-mail: diu@healthnet.org.np
