



Mini Review

Volume 6 Issue 3 - May 2023
DOI: 10.19080/APBJ.2023.06.555687

Anatomy Physiol Biochem Int J

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Brief Review on some of the Medications which Act on the Autonomic Nervous System and have Importance in Basic and Clinical Settings



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Submission: April 20, 2023; Published: May 03, 2023

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Abstract

There are various medications which would act on the autonomic nervous system. This is a brief review on these medication's classes and some relevant examples which having knowledge about them, is of importance for clinicians and also basic scientists.

Keywords: Autonomic Nervous System; Receptors; Medications; Drug classes; Basic and Clinical settings

Body

Autonomic nervous system as a component of the peripheral nervous system would regulate the physiologic processes which are involuntary in their nature. Such processes include digestion, blood pressure, sexual arousal, respiration, and heart rate. The autonomic nervous system has three divisions including enteric, sympathetic, and parasympathetic ones [1].

There are various medications which can affect the autonomic nervous system. Adrenergic drugs include alpha and beta agonists and antagonists. Midodrine, phenylephrine and methoxamine are examples of alpha one agonists drug class which may be used for orthostatic hypotension and nasal congestion [2].

Tamsulosin and prazosin belong to the alpha one antagonists drug class which may be used for benign prostatic hypertrophy and hypertension. Alpha two agonist's examples include guanfacine and clonidine which can be used for Tourette syndrome, opiate withdrawal, attention deficit disorder and hypertension.

Yohimbine is an example of alpha two antagonists drug class. Isoproterenol and dobutamin which may be used for heart failure, belong to the nonspecific beta agonists drug class [3].

Non specific beta antagonist's drugs like timolol and propranolol be used for hypertension, heart ischemia and social phobia. Labetalol and atenolol which may be used for hypertension and heart ischemia belong to the beta one antagonists drug class. Beta two agonists like salbutamol and terbutaline may be used for asthma and chronic obstructive pulmonary disease. Donepezil,

pyridostigmine, physostigmine, tacrine and edrophonium belong to the cholinesterase inhibitors drug class and can be used in dementia, myasthenia gravis, atonic bladder, and orthostatic hypotension. Succinylcholine belongs to the neuromuscular junction nicotinic cholinergic antagonists drug class which can be used in anesthesia. Ganglionic nicotinic cholinergic antagonists like mecamylamine and tetraethylammonium may be used in hypertension specifically in severe cases. Bethanechol belongs to the muscarinic cholinergic agonists drug class which may be used for urinary retention. Muscarinic cholinergic antagonists like scopolamine and benztropine may be used for motion sickness [4].

Conclusion

This brief review tries to point to some important aspects of autonomic nervous system medications. It is important for the clinicians and also basic scientists to be familiar with various drug classes so that it can be easier for the clinicians to prescribe medications in various pathologies and also for basic scientists to design effective medications with lowest possible side effects.

References

1. Katzung BG (2009) Introduction to autonomic pharmacology. In: Katzung BG, Masters SB, Trevor AJ (eds.), Basic and Clinical Pharmacology, Katzung & Trevor's Pharmacology (11th Ed).
2. Westfall TC, Westfall DP (2011) Neurotransmission: the autonomic and somatic motor nervous systems. In: Brunton LL, Chabner BA, Knollmann BC (eds.), The Pharmacological Basis of Therapeutics. (12th Ed.), Goodman and Gilman's, McGraw-Hill Companies, New York, NY, USA.

3. Lawson NW, Johnson JO (2006) Autonomic nervous system: physiology and pharmacology. In: Barash PG, BF Cullen, Stoelting RK (eds.), Clinical Anesthesia (5th Ed), Lippincott-Raven Publishers, USA.
4. Marx JA, Hockberger RS, Walls RM, James A, Peter R (2010) Rosen's Emergency Medicine: Concepts and Clinical Practice. (7th Ed), Mosby Elsevier, Philadelphia, PA, USA.



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DOI: [10.19080/APBIJ.2023.06.555687](https://doi.org/10.19080/APBIJ.2023.06.555687)

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