Hormones & Pain Care Information Network

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BULLETIN 50

CATECHOLAMINES:
THE FORGOTTEN HORMONES

If you mention dopamine or norepinephrine to a physician, chances are he will tell you they are neurotransmitters in the central nervous system (CNS) that are involved in depression, Parkinson's, fatigue, and ADD. This answer is only partially correct. The catecholamines (named because their chemical structure contains catechol) are also hormones. They are produced, stored, and secreted by the adrenal medulla (Middle Section).

MAJOR HORMONES

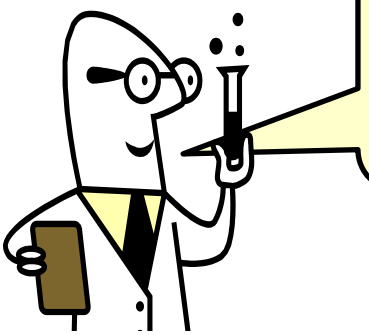
The major hormones are epinephrine, norepinephrine, and dopamine. After secretion into the general circulation they metabolize primarily by catechol-o-methyltransferase (COMT) to metanephrine, vanillylmandelic acid, and homovanillic acid. These metabolites are often measured to determine excess or deficient catecholamine production.

WHY CRITICAL FOR PAIN CARE

Until now the catecholamines produced in the adrenal glands were thought to only regulate blood pressure and act as CNS neurotransmitters. However, new research shows that the catecholamines control the descending pain pathways (references on request). This research provides scientific rationale for the long-observed phenomenon that stimulants (catecholamine or adrenergic compounds) potentiate and spare opioids.

Dr. Techy says, "There are several adrenergic (adrenalin-type) drugs available to pain patients."

- ✓ **Amphetamine salts**
- ✓ **Methylphenidate**
- ✓ **Phentermine**
- ✓ **Phendimetrazine**
- ✓ **Provigil**
- ✓ **Lisdexamfetamine**
- ✓ **Dexmethylphenidate**



Dr. Hormone says, "To get improved pain relief and spare opioids, add an adrenergic drug to the patient's regimen."

Tennant Foundation

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