Psychiatric Medication Effects on Prolactin Levels

Sylvester Foley MS4, Ross University School of Medicine
Dr. Marjorie Caro MD

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Definition: it's a hormone the body produces that is responsible for making breast milk (also known as lactation)

Function: the main functions of prolactin are to support breastfeeding and to help with the development of the mammary glands

- ★ Mammary glands are the structures in breasts that store milk
- ★ Normal prolactin levels in women: below **25 µg/L**
- ★ Normal prolactin levels in men: below **20 µg/L**

What is Prolactin?

Definition: This means that the body is producing elevated prolactin levels above normal. This can lead to side effects and complications if not addressed.

- ★ For patients who are **pregnant** or **breastfeeding** it is considered normal for prolactin levels to be elevated since the body is in the process of producing breast milk
- ★ **Meals** may also increased prolactin levels temporarily

What is Hyperprolactinemia?

Side Effects of Hyper-Prolactinemia

Decreased Sex Drive & Infertility

- Increased prolactin can cause a decrease in other hormones in the body that can lead to infertility, erectile dysfunction, and decreased sex drive. These symptoms tend to affect men more.

Abnormal Menstrual Cycle

- Can lead to infrequent or even the disappearance of one's menstrual cycle, known as amenorrhea

Bone Density Changes

- Women can have a decreased bone mineral density when compared to women with normal levels. Low bone density can increase the risk of fractures

Galactorrhea

- This is the unexpected leakage of breast milk. This nipple discharge may leak from the breast on its own or when touched.
- It's not related to milk production in breastfeeding or pregnancy.

Psychiatric Medications That can Cause Hyperprolactinemia

(**BOLD** = medications with highest risk)

Antipsychotics (First Generation)	Antipsychotics (Second Generation)	Antidepressants (TCAs)
Fluphenazine	**Risperidone**	**Clomipramine**
Haloperidol	**Paliperidone**	Amitriptyline
Chlorpromazine	Asenapine	Desipramine
Loxapine	Olanzapine	
Perphenazine	Ziprasidone	
Pimozide		
Thiothixene		
Trifluoperazine		

Yes, higher dosing of Psychiatric medications does increase Prolactin levels. This is known as a **dose-dependent** relationship, here are some examples:

- ★ **Risperidone (Risperdal):** mean of 2.1mg/day caused medication prolactin levels of 56.1 ng/mL.
- ★ **Paliperidone (Invega):** higher paliperidone doses (≥1.1 Daily Doses/day) were associated with a greater hazard ratio for incident prolactin elevation compared to lower doses
- ★ **Fluphenazine (Prolixin):** Longer-term studies report that prolactin levels may increase x3 after three days of fluphenazine treatment, and can double again after several weeks of continued therapy.
- ★ **Haloperidol (Haldol):** 5mg was associated with prolactin levels of 16-20 ng/mL. At 30mg, prolactin levels increased up to 35-36 ng/mL

Does Medication Dosing Affect Prolactin Levels?

- ★ Let you PCP and psychiatrist know when are experiencing any symptoms that may indicate elevated prolactin levels
- ★ Patients should get a **baseline** prolactin level prior to starting high risk medication. Once on medication, routine lab monitoring of prolactin levels should occur at least **annually**
- ★ If hyperprolactinemia does occur due to medication, the offending medication should be either **decreased**, **discontinued**, or switched to an **alternative medication**

Management for Patients on Antipsychotic Medications

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