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## Sialorrhea (Hypersalivation)

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**Characteristics:** Excessive drooling, usually more severe at night.

**Meds That Cause It:** Clozapine is the most common cause (30%–80% incidence). Can be caused by olanzapine, risperidone, or quetiapine.

**Mechanism:** Procholinergic effect.

**General Management:**

- Chew sugarless gum, which encourages more frequent swallowing of saliva.
- Place towel over pillow if main bothersome symptom is nocturnal sialorrhea.

**First-Line Medications:**

Glycopyrrolate (Robinul): Start 1 mg at bedtime, then ↑ to 1–2 mg twice daily if symptoms are prominent during the day. Unlike other anticholinergics, glycopyrrolate does not cross the blood-brain barrier, so there are fewer central anticholinergic side effects. SE: Constipation, dry mouth, blurred vision, urinary retention.

**Second-Line Medications:**

- Ipratropium (Atrovent) 0.03% nasal spray; use one to two sprays sublingually (rather than intranasally).
- Oxybutinin (Ditropan) 5 mg twice daily.
- Alpha agonists such as clonidine (Catapres) 0.05–0.1 mg daily or weekly transdermal patch 0.1–0.2 mg or guanfacine (Tenex).
- Benztropine (Cogentin) 1 mg twice daily.
- Trihexyphenidyl (Artane) 5 mg twice daily.
- Atropine 1% ophthalmic drops; use one drop TID PRN sublingually.

**Clinical Pearls:**

- Dose reduction of clozapine usually is not helpful in diminishing symptoms.
- Clozapine has strong anticholinergic properties, so its procholinergic effect of excessive drooling is puzzling. Theories explaining this include specific stimulation of cholinergic salivary receptors and impairment in the autonomically mediated swallowing mechanism (which may also contribute to clozapine-related dysphagia and pneumonia).
- Sialorrhea may increase the risk of developing aspiration pneumonia in patients taking clozapine, particularly if accompanied by sedation. Monitor closely and manage accordingly (see Table 11).

**Fun Fact:**

Ayurvedic medicine recommends a number of natural treatments for hypersalivation, including chewing cloves, drinking cinnamon tea, and eating a combination of pepper, ginger, and honey.