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Clozapine and sialorrhea: update

Among the frequently reported side effects of clozapine is nocturnal hypersalivation (sialorrhea), a troubling and potentially hazardous reaction. Hypersalivation can also occur in the daytime, causing social withdrawal and isolation because of embarrassment and stigma.

Many interventions have been used to alleviate this side effect, including dose reduction, addition of antiparkinsonian agents such as benztropine and procyclidine, and use of sugarless candy. For the most part, these interventions work at the systemic level and have not provided any real relief.

As reported in the May 1999 issue of the *Journal of Psychiatry & Neuroscience*, atropine eye drops were tried as a possible intervention.[1] One drop of 1% solution was given sublingually at bedtime, and the dose was titrated as required to achieve maximum relief of symptoms. We reported encouraging results from this intervention.

The use of atropine eye drops to treat clozapine-induced sialorrhea appears to have a beneficial effect despite the presence of an anticholinergic action. However, patients reported that the atropine was short acting and that they experienced rebound sialorrhea in the early hours of the morning, which necessitated repeat dosing. Some patients reported difficulty manipulating the dropper to ensure the proper dosing. The potential for accidental overdose with drops as opposed to a metered spray was worrisome as well. We therefore have looked for other alternatives to atropine eye drops.

Ipratropium bromide (Atrovent) nasal spray is a powerful, longer acting anticholinergic drug that can also be applied sublingually. The spray formulation comes in 2 concentrations: 0.03% and 0.06%. We have been working with the 0.03% solution, normally used to relieve side effects of severe rhinitis, and have found that 2 sprays of this solution under the tongue at bedtime is as effective, if not more effective, than the 1% atropine eye drops in controlling sialorrhea.

Ten patients, formerly receiving atropine eye drops, were successfully switched to ipratropium bromide nasal spray, 0.03% solution, over 6 months. In 2 cases, use of the nasal spray was started directly. Patients reported reduction or resolution of nocturnal hypersalivation after using the spray. Two patients used the preparation twice a day, the remainder only once a day. There were no side effects other than 2 patients reporting that they did not like the taste. Compared with the eye drops, the metered spray was reported to be easier to use and to require less digital precision. In addition, patients were more accepting of carrying the spray with them and using it in public places.

Although further study is required, we find these observations encouraging in the treatment of clozapine-induced sialorrhea. A protocol for studying the effectiveness of this intervention is currently being submitted to an ethics review board for approval.

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A short form of the Wisconsin Card Sorting Test

There has been a proliferation of studies of cognitive changes with antipsychotic medications since clozapine was reintroduced to clinical practice 10 years ago, and recent reviews have indicated the extraordinary value of cognitive improvement to sociovocational rehabilitation.[1-3] However, the cognitive test batteries remain too long and complicated for general clinical application, discouraging to both clinicians and patients. In our clinic, we are identifying a series of relatively simple but standardized psychometric tests capable of detecting changes from treatment. In this pursuit, we have examined a short form of the Wisconsin Card Sorting Test (WCST)[4] and have found promising results.

Myriad cognitive impairments are associated with schizophrenia, but most would agree that executive function deficits are a leading barrier to vocational reintegration.