

6. Summary

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Although polyposis is known to result from underlying inflammation, its pathogenesis is still unknown.

Surgery plays an important role in the treatment of polyposis, and recent advances, particularly the introduction of the endoscope and computed tomography, have allowed a more precise surgical approach. Surgery should be the first line of treatment for any unilateral nasal polyps or when any serious disorder is suspected. Topical corticosteroids have been used in conjunction with surgery with good effect.

Long-term treatment with fluticasone propionate (FP) nasal spray has been found to be effective after endoscopic sinus surgery. However, the efficacy of topical corticosteroid sprays in the treatment of polyposis is limited by delivery of the drug to the target area. With aqueous spray systems, a large proportion of the drug is deposited in the anterior part of the nose. Aerosol spray systems are currently being phased out because of their deleterious effects on the ozone layer.

Nasal drops, properly applied, have a greater chance of reaching the target area. The new FP nasal drop formulation has been specifically developed for the treatment of nasal polyposis. It is available in single-dose units to ensure accuracy of dosing and aid patient compliance. Additionally, the single-dose ampoules are preservative-free, with no risk of microbiological contamination.

In the past, there has been much controversy over the use of benzalkonium chloride as a preservative, particularly in nasal spray systems. A number of *in vitro* studies using cell cultures derived from nasal epithelium and other mucosal systems have indicated some cell death with benzalkonium chloride. However, there is no documented evidence of *in vivo* toxicity in humans.

FP nasal drops have negligible systemic bioavailability. The estimated value is 0.06%, which is lower than that of FP

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nasal spray. Plasma cortisol levels are unaffected during treatment, and plasma FP levels are more than 30 times lower than those which produce detectable changes in cortisol. The incidence of local adverse effects is also very low, with most being predictable in nature and mild. This tolerability profile is maintained even when the usual once-daily dose of 400 µg is administered twice daily.

Medication is playing an increasingly important role in the treatment of polyposis, both before and after surgery. In

some instances, medication alone may be sufficient to treat the disease. With the availability of a product which has been specifically designed to deliver an accurate dose of corticosteroid directly to the ethmoid sinuses, the site of polyp formation, the need for surgery may be avoided or recurrences reduced.

Further clinical experience with FP nasal drops will provide a more definitive picture of the beneficial effects of corticosteroid therapy in polyposis.