



Therapeutic Class ReviewSM

Ophthalmics– Difluprednate ophthalmic emulsion 0.05% (DurezolTM)

December 2008

New Products for Review

Difluprednate ophthalmic emulsion 0.05%
(DurezolTM) [Sirion Therapeutics]

Dossier Provided by Manufacturer: Yes

Dossier Evaluation: 3

- 1 - Dossier missing significant clinical trial(s).
- 2 - Mfg. provided all relevant trials; Missing pharmacoeconomic model.
- 3 - Mfg. provided all relevant trials and information.

Executive Summary

- Ocular inflammation is a common occurrence following ophthalmic surgeries. While it tends to be self-resolving, some cases can lead to serious sequelae, such as acute pain and discomfort, chronic cystoid macular edema, or chronic uveitis. ^[12]
- At present, there is no established protocol for postoperative ocular inflammation and pain. Most ocular surgery guidelines recommend an ophthalmic corticosteroid alone or in combination with an ocular non-steroidal anti-inflammatory (NSAID) product for postoperative inflammation. ^[10,11]
- Currently, there are seven ophthalmic corticosteroids, four of which are available generically.
- Difluprednate ophthalmic emulsion 0.05% (Durezol) is an ophthalmic corticosteroid used to treat inflammation and pain associated with ocular surgery.

Evidence

- Although corticosteroids have been used for years to treat postoperative ocular inflammation, comparative data is scarce and unreliable. Most comparative trials are designed to only show that two products are similar in safety and effectiveness. Therefore, there is no evidence that one ocular steroid is better than another.
- There are five trials comparing difluprednate ophthalmic emulsion 0.05% (Durezol) to either placebo or prednisolone acetate suspension 1% (Pred Forte) in 781 patients with inflammation associated with ocular surgery or anterior uveitis. All five trials are unreliable because of:
 - High drop-out rates of up to 50%.
 - Differential drop-out rates of up to 40%.

- Last-observation carried forward analysis biased treatment over placebo.
- There is no reliable evidence that difluprednate ophthalmic emulsion 0.05% (Durezol) provides clinical advantages as compared to other alternatives for postoperative ocular inflammation and pain.

Decision

Difluprednate ophthalmic emulsion 0.05% (Durezol) is non-preferred/non-formulary because:

- There is no reliable evidence of improved efficacy or safety over placebo or other alternative treatments.
- There are several generic and preferred/formulary brand alternatives available that provide a better value.

Products

Drug Products	FDA approval ^a / Patent expiration	Preservatives	FDA approved indications	Usual Dose/Route	Potential Off-label Uses ^b
Difluprednate ophthalmic emulsion 0.05% (Durezol)	06/2008 Patent exp. 05/2018	Sorbic acid	Inflammation and pain associated with ocular surgery	1 gtt QID x14 days followed by a taper	Other steroid-responsive ocular inflammation
Dexamethasone ophthalmic 0.05% oint, 0.1% drops (generic)	09/1959 Patent expired	BAC ^c	Steroid-responsive inflammatory conditions of palpebral and bulbar conjunctiva, lid, cornea, and anterior segment of globe; sympathetic ophthalmia; temporal arteritis; uveitis	1-2 gtt Q1H during day and Q2H during night initially, may reduce dose to TID-QID as response is favorable	Other steroid-responsive ocular inflammation
Dexamethasone sodium phosphate suspension, 0.1% (Maxidex)	06/1962 Patent expired	BAC	Steroid-responsive inflammatory conditions of palpebral and bulbar conjunctiva, lid, cornea, and anterior segment of globe; sympathetic ophthalmia; temporal arteritis; uveitis	Depending on severity, 1-2 gtt Q1H to 4-6x daily	Other steroid-responsive ocular inflammation
Fluorometholone suspension 0.1% (FML, generic)	01/1972 Patent expired	BAC	Steroid-responsive inflammation of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe	1 gtt BID-QID, during initial 24-48 hr. May dose 1 gtt Q4H	Other steroid-responsive ocular inflammation
Fluorometholone suspension 0.25% (FML Forte)	04/1986 Patent expired	BAC	Treatment of steroid-responsive inflammation of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe	1 gtt BID-QID, during initial 24-48 hr. May dose 1 gtt Q4H	Other steroid-responsive ocular inflammation
Fluorometholone ointment 0.1% (FMP S.O.P)	09/1989 Patent expired	Phenyl-mercuric acetate	Steroid-responsive inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the eye	Apply ½ in. ribbon QD-TID, may dose Q4H during initial 24-48 hr	Other steroid-responsive ocular inflammation
Fluorometholone acetate suspension 0.1% (Flarex)	02/1986 Patent expired	BAC	Steroid-responsive inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe; treatment of postoperative inflammation following ocular surgery	1-2 gtt QID, may dose 2 gtt Q2H during initial 24-48 hours	Other steroid-responsive ocular inflammation
Loteprednol etabonate suspension, 0.2% (Alrex)	03/1998 Patent exp. 10/2013	BAC	Temporary relief of signs and symptoms of seasonal allergic conjunctivitis	1 gtt in the affected eye(s) QID	Other steroid-responsive ocular inflammation
Loteprednol etabonate suspension, 0.5% (Lotemax)	03/1998 Patent exp. 10/2013	BAC	Steroid-responsive inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe; treatment of postoperative inflammation following ocular surgery	1-2 gtt QID beginning 24 hr after surgery x2 weeks	Other steroid-responsive ocular inflammation
Prednisolone sodium phosphate solution 1% (Prednisol, generic)	1993 Patent expired	BAC	Steroid-responsive inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe	1-2 gtt Q1H during day and Q2H during night initially, may reduce dose to TID-QID as response is favorable	Other steroid-responsive ocular inflammation
Prednisolone acetate suspension 0.12% (Pred Mild)	11/1972 Patent expired	BAC	Corneal injury from chemical, radiation, or thermal burns, or penetration of foreign bodies; treatment of steroid-responsive inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe	1-2 gtt BID-QID, during initial 24-48 hours dose may be increased if necessary	Other steroid-responsive ocular inflammation
Prednisolone acetate suspension 1% (Pred Forte, Omnipred, generic)	1973 Patent expired	BAC	Corneal injury from chemical, radiation, or thermal burns, or penetration of foreign bodies; treatment of steroid-responsive inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe	1-2 gtt BID-QID, during initial 24-48 hours dose may be increased if necessary	Other steroid-responsive ocular inflammation
Rimexolone 1% suspension (Vexol)	12/1994 Patent exp. 07/2008	BAC	Postoperative inflammation following ocular surgery; anterior uveitis	1-2 gtt QID beginning 24 hr after surgery x2 weeks	Other steroid-responsive ocular inflammation

^a Date applies to approval date for the original brand name medication where there are now generics available.

^b As listed in © 1974 - 2008 Thomson MICROMEDEX database or as referenced.

^c Benzalkonium chloride

References

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