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Potential Ocular Side Effects of Select Systemic Drugs

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Description
The purpose of this poster is to serve as a handy reference for current and future eye care providers. It summarizes the ocular side effects that are potentially seen in patients who are on select systemic medications.

Keywords
Ocular Side Effects; Systemic Drugs

Disciplines
Optometry

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## Potential Ocular Side Effects of Select Systemic Drugs

### Accutane (isotretinoin)
- **Indications:** This retinoid (a form of vitamin A) is used to treat psoriasis, cystic acne, and various other skin conditions.
- **Ocular Side Effects:** Talc retinopathy, epithelial defects. Also seen with carmustine.
- **Comments:** Talc are filters in ocular & abused drugs along with things like flour, laxatives, sugar, and local anesthetics among other precipitates.

### amiodarone (Cordarone or Pacerone)
- **Indications:** Antiarrhythmic
- **Ocular Side Effects:** Whorl keratopathy, optic neuropathy, and photophobia.
- **Comments:** See with 400-1,400 mg/d. DDx: Fakty's disease, indomethacin, chlorpromazine

### Avandia/Actos (rosigliazone maleate)
- **Indications:** Diabetes. Increases sensitivity to insulin.
- **Ocular Side Effects:** Macular edema
- **Comments:** DDx from CSME. Cardiovascular events are also seen.

### contraceptives estrogen and/or progesterone
- **Indications:** Pregnancy prevention
- **Ocular Side Effects:** Optic neuritis, pseudotumor cerebri, dry eyes
- **Comments:** retinal thrombosis, cardiovascular events

### Coumadin (warfarin sodium)
- **Indications:** Prevents clot formation in atrial fibrillation and thrombosis.
- **Ocular Side Effects:** Retinal and subconjunctival hemorrhage. Also seen with ginkgo use.
- **Comments:** INR ≤ 5 prone to bleed (normal 1-3)

### Crystalline Retinopathy
- **Indications:** Dry eye, blurred vision, photopsia, diplopia, conjunctivitis, and ptosis.
- **Comments:** Doses around 800 mg/d increase risk of toxicity.

### Crystalline Maculopathy
- **Indications:** Night blindness (xanthopsia) is also reported with this drug.
- **Comments:** Visual changes are reversible.

### Prozac/antidepressants (fluoxetine/SSRIs)
- **Indications:** Treats depression and anxiety.
- **Comments:** Baseline eye exam including VF, color vision, and optic nerve analysis.

### Prednisone (steroids)
- **Indications:** Lupus, rheumatoid arthritis, and other immune-mediated conditions.
- **Ocular Side Effects:** Posterior subcapsular cataract; high IOP
- **Comments:** Doses 60 mg/d; intravitreal injections and implants need regular monitoring.

### Tamoxifen citrate (Nolvadex)
- **Indications:** Breast cancer
- **Ocular Side Effects:** Crystalline retinopathy
- **Comments:** Normal dosage levels (20 mg/d) are unlikely to induce retinopathy.

### Topamax (topiramate)
- **Indications:** Seizures. Also off label for migraine headaches.
- **Ocular Side Effects:** Acute myopia, bilateral angle closure glaucoma.
- **Comments:** Ultrasonography has also shown choroidal effusion, choroidal detachment, and ciliary body edema.

### Viagra/Levitra/Cialis (sildenafil)
- **Indications:** Erectile dysfunction
- **Ocular Side Effects:** Rapid lunge to vision (cyanopsia), NAION, and macular edema.
- **Comments:** Visual side effects occur in 11% of men taking 100-mg doses.

### References:
- http://www.drugs.com
- http://nlsnet.com

### Interferons (Intron A/Avonex/Pegasys)
- **Indications:** Used to treat hepatitis & MS
- **Ocular Side Effects:** Ocular pain, conjunctivitis, cotton wool spots, optic neuritis, and pronounced dry eye.
- **Comments:** Eye exam prior to treatment and 2-4 weeks after treatments.

### levothryoxine (Synthroid)
- **Indications:** Replaces thyroid not produced by thyroid
- **Ocular Side Effects:** Diplopia, ptosis, and paralyisis of EOMs
- **Comments:** Most commonly occurs in men between the ages of 30-50. Also seen with Niacin (vitamin to lower cholesterol).

### phenothiazines (Thorazine, Mellaril)
- **Indications:** Benign prostate hyperplasty
- **Ocular Side Effects:** Loss of tone in iris dilator smooth muscle causing poor pupil dilation/prolapse during cataract surgery.
- **Comments:** Selective alpha-1A antagonist

### dry eye

### Interferon

### Dry Eye

### Prednisone

### Prozac/antidepressants

### Tamoxifen citrate

### Topamax

### Viagra/Levitra/Cialis

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