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Oral corticosteroid users are at increased risk of cataract, but the risk among intranasal corticosteroids users has been investigated the last ten years. Topical ophthalmic, oral, and intravenous corticosteroids have long been associated with ocular side effects. Prolonged exposure to inhaled corticosteroids among adults over 49 years old has been reported to increase cataract risk. Small-scale studies of inhaled steroid users suggest that no increased risk for children and young adults exists. Among individuals 40 years of age or older, the risk ratio increased with use of increasing numbers of inhaled corticosteroid prescriptions after controlling for diabetes mellitus, hypertension, and smoking history. This trend was not evident in those under age 40 [1].

Recent data suggest that inhaled corticosteroids are also associated with the development of cataract and increased intraocular pressure. Thus far, nasally administered steroids have not been associated with the same effects. Local injection of steroids, even at sites far from the eye, have been associated with the development of cataract, glaucoma, and even retinal and choroidal emboli. Any physician prescribing corticosteroids should be aware of these potential ocular side effects and should advise patients accordingly [2]. Posterior subcapsular cataract complicates both systemic and topical corticosteroid therapy [3].

Derby L, Maier WC. (2000) demonstrated that incidence rate of cataract (1.0/1000 person-years) among users of intranasal corticosteroids was similar to the incidence rate among nonusers. However, oral corticosteroid users were at higher risk of cataract (2.2/1000 person-years). Approximately 70% of intranasal corticosteroid exposure was to beclomethasone dipropionate only; the event rate in this group was similar to that in the unexposed group. Cataract risk did not increase with the number of prior prescriptions for intranasal corticosteroids [4].

There is no evidence to support the contention that inhaled corticosteroid therapy on its own, or in association with short courses of oral corticosteroid therapy, might cause cataracts. Although children receiving long term systemic corticosteroid therapy should be screened for cataracts, this is unnecessary in children on inhaled corticosteroids alone[5].

Prolonged administration of high doses of inhaled corticosteroids increases the likelihood of undergoing cataract extraction in elderly patients. Further studies are needed to investigate the risk of developing cataracts for low to medium [6].

Longitudinal associations between inhaled and oral corticosteroid use and 10-year incident cataract were examined by Wang JJ, et al (2009) in a population-based cohort study. They examined in the Blue Mountains Eye Study 3654 Australians aged 49 years or older (1992-1994); 2335 were re-examined after 5 years and 1952 were re-examined after 10 years (75.1%, 75.6% of survivors, respectively). In the study were used questionnaires in order to assess inhaled and oral corticosteroid use at baseline. Past users were participants who had used these medications for at least 1 month in the past but were not using them at baseline.

Current users were those who were using these medications at baseline and had been doing so for at least 1 month. Ever users combined past and current users. Lens photographs were obtained at each examination and graded for nuclear, cortical, and posterior subcapsular (PSC) cataracts following the Wisconsin Cataract Grading System. Participants without a specific subtype of cataract in either eye at baseline were considered to be at risk of that type of cataract developing over the 10-year follow-up. Incidence of each cataract subtype in this report refers to person-specific, first-eye incidence.

At baseline, 103 participants were current and 120 past users of inhaled corticosteroids, and 31 were current and 147 were past users of oral corticosteroids. Current users had a greater risk of developing PSC cataract after adjustment for age and gender (inhaled: odds ratio [OR] 2.50, 95% confidence interval [CI] 1.33-4.69; oral: OR 4.11; 95% CI 1.67-10.08) and nuclear cataract (inhaled: OR 2.04, 95% CI 1.21-3.43; oral: OR 3.45, 95% CI 1.26-9.43) but not cortical cataract. Interaction between inhaled and oral corticosteroid use was significant for PSC (P = 0.01) and nuclear (P = 0.02) cataract incidence. In subgroup analyses, only individuals who used both inhaled and oral steroids were at increased risk of PSC cataract (after adjusting for age, sex, smoking, hypertension, diabetes, and education levels; OR 4.76, 95% CI 2.59-8.74), comparing ever users of both with users of neither [7].

The risk of cataracts was increased by approximately 25% for each 1000 microg per day increase in the dose of beclomethasone dipropionate or equivalent. These findings reinforce the importance of prescribing within the therapeutic dose-response range for ICS in asthma and the need to determine the dose-response relationship for the efficacy of ICS in COPD. Screening for the presence of cataracts could usefully be undertaken in older subjects with asthma and COPD, particularly current or ex-smokers [8].

Literature

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