

Bölüm 4

KATARAKT EPİDEMİYOLOJİSİ

Fatih ATMACA¹

GİRİŞ

Dünya Sağlık Örgütüne (DSÖ) göre tüm dünyada körlük ve görme kaybının en sık nedeni katarakttir. Nufusun yaşlanmasıyla, lentiküler opasite sonucu oluşan görme kayıplarının sıklığı her yıl artmaktadır. (1) ve A.B.D.'de azalmış vizyonun en önde gelen sebebidir. (2) Siyah Amerikalar'da tek başına en sık körlük nedenidir ve %36.8'inde görülmektedir. (3) Amerika Birleşik Devletleri gibi gelişmiş ülkelerde katarakt ameliyatı hem yaygın olarak yapılan hem de başarılı olarak uygulanan bir cerrahi olmasına rağmen ciddi bir maaliyeti olmaktadır. Katarakt oluşumundaki 10 yıl gecikmenin katarakt ameliyatına duyulan ihtiyacı %45 azaltacağı tahmin edilmektedir. (5)

YAŞA BAĞLI KATARAKT: YÖNTEMSEL DEĞRELENDİRMELER

Hastalığın tanımını ve ciddiyetini açıklamada yardımcı olan fotograflama ve evreleme şemalarının gelişmesi, katarakt için yapılan epidemiyolojik araştırmalarda önemli ilerlemelere yol açmıştır. (6) Klinik muayene ile toplanan bir çok bilginin geçerliliği ve güvenilirliğini değerlendirmek oldukça zordur. Yayınladığımız bilgiler hem standart lens fotoğraflarına hem de kliniğe göre yapılmış evrelemeyi içeren, değişik ulusal ve uluslararası çalışmaları içermektedir. Katarakt tipleri kataraktin küresel prevalansı için gruplandırılmıştır. Birçok çalışmada katarakt prevalansı katarakt opasitesine göre değil, görme keskinliği değerlendirmesi ön planda tutularak yapılmıştır. Bununla beraber etyolojik ilişkileri araştırırken özel katarakt tiplerini araştırmak gerekmektedir.

YAŞA BAĞLI KATARAKT TİPLERİ

Yaşa bağlı gelişen kataraktin en sık görülen 3 tipi vardır: nükleer, kortikal ve arka subkapsüler. Bu tiplerin nedenlerinin genetik ve çevresel olduğuna inanılmaktadır ve hem niceliksel hem niteliksel olarak ayrılmaktadır. (7-13) Cerrahi gerektirebilecek ciddiyettedeki kataraktin riskini etkileyen faktörlerin tamamını tanımlamak zor olsa da çok önemlidir.

¹ Dr. Öğr. Üyesi, İstinye Üniversitesi, drfatihatmaca@gmail.com

KAYNAKLAR

1. Thylefors B, Negrel AD, Pararajasegaram R, Dadzie KY: Global data on blindness. *Bull World Health Organ* 1995; 73:115- 121.
2. Rahmani B, Tielsch JM, Katz J, et al: The cause-specific prevalence of visual impairment in an urban population. The Baltimore Eye Survey. *Ophthalmology* 1996; 103:1721-1726.
3. The Eye Disease Prevalence Research Group : Causes and prevalence of visual impairment among adults in the United States. *Arch Ophthalmol* 2004; 122:477-485.
4. The Eye Disease Prevalence Research Group : Prevalence of cataract and pseudophakia/aphakia among adults in the United States. *Arch Ophthalmol* 2004; 122:487-494.
5. Report of the Cataract Panel : *Vision research: a national plan, 1983–1987*, US Department of Health and Human Services, 1983. NIH Publication Number 83-2473
6. Klein BE, Klein R, Linton KL, et al: Assessment of cataracts from photographs in the Beaver Dam Eye Study. *Ophthalmology* 1990; 97:1428- 1433.
7. Klein BE, Klein R, Linton KL, Franke T: Cigarette smoking and lens opacities: the Beaver Dam Eye Study. *Am J Prev Med* 1993; 9:27-30.
8. Cruickshanks KJ, Klein BE, Klein R: Ultraviolet light exposure and lens opacities: the Beaver Dam Eye Study. *Am J Public Health* 1992; 82:1658- 1662.
9. Klein BE, Klein R, Jensen SC, Linton KL: Hypertension and lens opacities from the Beaver Dam Eye Study. *Am J Ophthalmol* 1995; 119:640-646.
10. Heiba IM, Elston RC, Klein BE, Klein R: Genetic etiology of nuclear cataract: evidence for a major gene. *Am J Med Genet* 1993; 47:1208-1214.
11. Heiba IM, Elston RC, Klein BE, Klein R: Evidence for a major gene for cortical cataract. *Invest Ophthalmol Vis Sci* 1995; 36:227-235.
12. Iyengar SK, Klein BE, Klein R, et al: Identification of a major locus for age- related cortical cataract on chromosome 6p12–q12 in the Beaver Dam Eye Study. *Proc Natl Acad Sci USA* 2004; 101:14485-14490.
13. Ederer F, Hiller R, Taylor HR: Senile lens changes and diabetes in two population studies. *Am J Ophthalmol* 1981; 91:381-395.
14. Johnson GJ, Weale RA, Minassian DC, West SK: *The epidemiology of eye disease*, 2nd edn. London, Arnold, 2003.
15. Klein BE, Klein R, Wang Q, Moss SE: Older-onset diabetes and lens opacities. The Beaver Dam Eye Study. *Ophthalmic Epidemiol* 1995; 2:49-55.
16. Klein BE, Klein R, Moss SE: Incident cataract surgery: the Beaver Dam Eye Study. *Ophthalmology* 1997; 104:573- 580.
17. Klein BE, Klein R: Cataracts and macular degeneration in older Americans. *Arch Ophthalmol* 1982; 100:571-573.
18. Flaye DE, Sullivan KN, Cullinan TR, et al: Cataracts and cigarette smoking. The City Eye Study. *Eye* 1989; 3 (Pt 4):379-384.
19. Leske MC, Chylack Jr LT, Wu SY: The Lens Opacities Case-Control Study. Risk factors for cataract. *Arch Ophthalmol* 1991; 109:244-251.
20. Christen WG, Manson JE, Seddon JM, et al: A prospective study of cigarette smoking and risk of cataract in men. *JAMA* 1992; 268:989-993.
21. Mohan M, Sperduto RD, Angra SK, et al: India-US case-control study of age-related cataracts. India-US Case- Control Study Group. *Arch Ophthalmol* 1989; 107:670-676.
22. The Italian-American Cataract Study Group : Risk factors for age-related cortical, nuclear, and posterior subcapsular cataracts. *Am J Epidemiol* 1991; 133:541-553.

23. Bochow TW, West SK, Azar A, et al: Ultraviolet light exposure and risk of posterior subcapsular cataracts. *Arch Ophthalmol* 1989; 107:369-372.
24. Hankinson SE, Willett WC, Colditz GA, et al: A prospective study of cigarette smoking and risk of cataract surgery in women. *JAMA* 1992; 268:994-998.
25. Taylor HR: Ultraviolet radiation and the eye: an epidemiologic study. *Trans Am Ophthalmol Soc* 1989; 87:802-853.
26. Hollows F, Moran D: Cataract – the ultraviolet risk factor. *Lancet* 1981; 2:1249-1250.
27. Brilliant LB, Grasset NC, Pokhrel RP, et al: Associations among cataract prevalence, sunlight hours, and altitude in the Himalayas. *Am J Epidemiol* 1983; 118:250-264.
28. Hiller R, Sperduto RD, Ederer F: Epidemiologic associations with cataract in the 1971–1972 National Health and Nutrition Examination Survey. *Am J Epidemiol* 1983; 118:239-249.
29. Taylor HR, West SK, Rosenthal FS, et al: Effect of ultraviolet radiation on cataract formation. *N Engl J Med* 1988; 319:1429-1433.
30. West SK, Longstreth JD, Munoz BE, et al: Model of risk of cortical cataract in the US population with exposure to increased ultraviolet radiation due to stratospheric ozone depletion. *Am J Epidemiol* 2005; 162:1080-1088.
31. Age-Related Eye Disease Study Research Group : A randomized, placebo-controlled, clinical trial of high-dose supplementation with vitamins C and E and beta carotene for age-related cataract and vision loss: AREDS report no. 9. *Arch Ophthalmol* 2001; 119:1439-1452.
31a.Clemons TE, Kurinij N, Sparduto RD, Bressler SB: for the Age-Related Eye Disease Study Research Group. A randomized, placebo-controlled, clinical trial of high-dose supplementation with vitamins C and E and beta carotene for age-related cataract and vision loss: AREDS report no. 9. *Arch Ophthalmol* 2001; 119:1439-1452.
32. Mares-Perlman JA, Klein BE, Klein R, Ritter LL: Relation between lens opacities and vitamin and mineral supplement use. *Ophthalmology* 1994; 101:315-325.
33. Jacques PF, Chylack Jr LT, McGandy RB, Hartz SC: Antioxidant status in persons with and without senile cataract. *Arch Ophthalmol* 1988; 106:337-340.
34. Taylor A: Associations between nutrition and cataract. *Nutr Rev* 1989; 47:225-234.
35. Taylor A, Jacques PF, Nadler D, et al: Relationship in humans between ascorbic acid consumption and levels of total and reduced ascorbic acid in lens, aqueous humor, and plasma. *Curr Eye Res* 1991; 10:751-759.
36. Goldberg J, Flowerdew G, Smith E, et al: Age-related macular degeneration and cataract: are dietary antioxidants protective. *Am J Epidemiol* 1988; 128:904-905.
37. Bunce GE, Hess JL: Cataract – what is the role of nutrition in lens health. *Nutr Today* 1988; 23:6-12.
38. Leske MC, Wu SY, Hyman L, et al: Biochemical factors in the Lens Opacities Case-Control Study Group. *Arch Ophthalmol* 1995; 113:1113-1119.
39. Vitale S, West S, Hallfrisch J, et al: Plasma antioxidants and risk of cortical and nuclear cataract. *Epidemiology* 1993; 4:195-203.
40. Lyle BJ, Mares-Perlman JA, Klein BE, et al: Serum carotenoids and tocopherols and incidence of age-related nuclear cataract. *Am J Clin Nutr* 1999; 69:272- 277.
41. Draper HH: Nutritional modulation of oxygen radical pathology. *Adv Nutr Res* 1990; 8:119-145.
42. Bunce GE, Kinoshita J, Horwitz J: Nutritional factors in cataract. *Annu Rev Nutr* 1990; 10:233-254.
43. Jacques PF, Hartz SC, Chylack Jr LT, et al: Nutritional status in persons with and wit-

- hout senile cataract: blood vitamin and mineral levels. *Am J Clin Nutr* 1988; 48:152-158.
44. Sperduto RD, Hu TS, Milton RC, et al: The Linxian cataract studies. Two nutrition intervention trials. *Arch Ophthalmol* 1993; 111:1246-1253.
45. Chatterjee A, Milton RC, Thyle S: Prevalence and aetiology of cataract in Punjab. *Br J Ophthalmol* 1982; 66:35-42.
46. Munoz B, Tajchman U, Bochow T, West S: Alcohol use and risk of posterior subcapsular opacities. *Arch Ophthalmol* 1993; 111:110-112.
47. Phillips CI, Clayton RM, Cuthbert J, et al: Human cataract risk factors: significance of abstention from, and high consumption of, ethanol (U-curve) and non-significance of smoking. *Ophthalmic Res* 1996; 28:237-247.
48. Cotlier E, Sharma YR: Aspirin and senile cataracts in rheumatoid arthritis. *Lancet* 1981; 1:338-339.
49. Chen TT, Hockwin O, Dobbs R, et al: Cataract and health status: a case-control study. *Ophthalmic Res* 1988; 20:1-9.
- 49a. Early Treatment Diabetic Retinopathy Study Research Group : Effects of aspirin treatment on diabetic retinopathy. ETDRS report number 8. *Ophthalmology* 1991; 98:757-765.
50. Walker AM, Jick H, Gorman MR, Wallach RW: Steroids, diabetes, analgesics, and the risk of cataract: lessons from the epidemiology of cataract extraction. *J Clin Res Drug Dev* 1988; 2:227-232.
51. Peto R, Gray R, Collins R, et al: Randomised trial of prophylactic daily aspirin in British male doctors. *Br Med J (Clin Res Ed)* 1988; 296:313-316.
52. Klein BE, Klein R, Ritter LL: Is there evidence of an estrogen effect on age-related lens opacities? The Beaver Dam Eye Study. *Arch Ophthalmol* 1994; 112:85-91.
53. Cumming RG, Mitchell P: Hormone replacement therapy, reproductive factors, and cataract. The Blue Mountains Eye Study. *Am J Epidemiol* 1997; 145:242-249.
54. Minassian DC, Mehra V, Jones BR: Dehydrational crises from severe diarrhoea or heatstroke and risk of cataract. *Lancet* 1984; 1:751-753.
55. Graw J, Loster J: Developmental genetics in ophthalmology. *Ophthalmic Genet* 2003; 24:1-33.
56. Hejtmancik JF, Smaoui N: Molecular genetics of cataract. *Dev Ophthalmol* 2003; 37:67-82.
57. Hammond CJ, Snieder H, Spector TD, Gilbert CE: Genetic and environmental factors in age-related nuclear cataracts in monozygotic and dizygotic twins. *N Engl J Med* 2000; 342:1786-1790.
58. Klein AP, Duggal P, Lee KE, et al: Polygenic effects and cigarette smoking account for a portion of the familial aggregation of nuclear sclerosis. *Am J Epidemiol* 2005; 161:707-713