

## Bölüm 11

### PEDİATRİK ÜVEİTLER

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#### GİRİŞ

Kökeni Latince “uva” kelimesinden gelen “uvea” terimi, gözün üzüm benzeri görünümüne sahip, kırmızımsı mavi renkte olan orta tabakasını ifade eder. Üveit, anatomik olarak iris, siliyer cisim ve koroidden oluşan bu tabakanın inflamasyonudur. Üveit pediatrik popülasyonda nadir görülür ve yetişkin üveitinden genellikle asemptomatik olmasıyla ayrılır; ancak kronikleşebilir ve oküler yapılarda hasara neden olabilir. Küçük çocuklarla iletişim ve muayene güçlükleri gibi birçok nedenden dolayı tanı gecikebilir (1). Pediatrik hastalarda üveit ile birlikte katarakt, glokom ve ambliyopi gelişebilir. Ayrıca üveit tedavisi sonucu büyüme ve gelişme geriliği gibi yan etkiler de çocuğu etkileyebilmekte ve çocuğun ailesine yük oluşturabilmektedir (2).

Uluslararası Üveit Çalışma Grubu (UÜÇG) ve Üveit Adlandırmasının Standardizasyonu (ÜAS) kriterleri, oftalmologların araştırmalarına ve klinik amaçlarla üveiti sınıflandırmasına olanak tanır (3,4). Bu kriterler hastalığın anatomik yerini, başlangıcını, süresini ve seyrini tanımlar ayrıca üveitli çocuklarda hastalık aktivitesinin izlenmesine yardımcı olur.

#### EPİDEMİYOLOJİ VE DEMOGRAFİK ÖZELLİKLER

Çocukluk çağı üveiti tüm üveit türlerinin %5-10'unu oluşturur (5). Çocukluk çağı üveitinin tahmini insidansı 100.000'de 4,3 olup prevalansı 100.000'de 27,9'dur (6,7). Ancak hastalığın görülme sıklığı ve prevalansı farklı ülke ve toplumlarda farklılık göstermektedir. İngiltere'de pediatrik üveitin yıllık insidansı 100.000 çocuk başına 5 yeni vakadır (8). Finlandiya nüfusu üzerinde yapılan bir çalışmada, yıllık insidans ve prevalans sırasıyla 100.000'de 4 ve 100.000'de 28'dir (7). Pediatrik üveitin diğer otoimmün durumlara benzer şekilde kızlarda daha yaygın olduğu bulunmuştur (9). Smith ve ark. (10) üveitli 527 çocuktan oluşan

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ve çocuğun ailesine yük oluşturabilecek yan etkileri de bulunmaktadır. Zamanında tanı ve uygun tedavi başarısının anahtarıdır.

## KAYNAKÇA

1. LaMattina KC, Koreishi AF. What is new in paediatric uveitis? *Curr Opin Ophthalmol.* 2018;29(5):412–18. doi: 10.1097/ICU.0000000000000501 .
2. Maleki A, Anesi SD, Look-Why S, et al. Pediatric uveitis: A comprehensive review. *Surv Ophthalmol* 2022 Mar-Apr;67(2):510-529. doi: 10.1016/j.survophthal.2021.06.006.
3. Davies K, Cleary G, Foster H, et al. British society of paediatric and adolescent rheumatology. BSPAR Standards of Care for children and young people with juvenile idiopathic arthritis. *Rheumatology (Oxford).* 2010;49(7):1406–8. doi: 10.1093/rheumatology/kep460.
4. Jabs DA, Nussenblatt RB, Rosenbaum JT. Standardization of uveitis nomenclature (SUN) working group. standardization of uveitis nomenclature for reporting clinical data. results of the first international workshop. *Am J Ophthalmol.* 2005;140(3):509–16. doi: 10.1016/j.ajo.2005.03.057.
5. Edelsten C, Lee V, Bentley CR, et al. An evaluation of baseline risk factors predicting severity in juvenile idiopathic arthritis associated uveitis and other chronic anterior uveitis in early childhood. *Br J Ophthalmol.* 2002;86(1):51–6. doi: 10.1136/bjo.86.1.51.
6. BenEzra D, Cohen E, Maftzir G. Uveitis in children and adolescents. *Br J Ophthalmol.* 2005;89(4):444–8 Apr. doi: 10.1136/bjo.2004.050609.
7. Nagpal A, Leigh JF, Acharya NR. Epidemiology of uveitis in children. *Int Ophthalmol Clin.* 2008;48(3):1–7 Summer. doi: 10.1097/IIO.0b013e31817d740e.
8. Edelsten C, Reddy MA, Stanford MR, et al. Visual loss associated with pediatric uveitis in english primary and referral centers. *Am J Ophthalmol.* 2003;135(5):676–80. doi: 10.1016/s0002- 9394(02)02148- 7.
9. Gupta A, Ramanan AV. Uveitis in Children: Diagnosis and Management. *Indian J Pediatr.* 2016;83(1):71–7 Jan. doi: 10.1007/s12098- 015- 1889- x.
10. Smith JA, Mackensen F, Sen HN, et al. Epidemiology and course of disease in childhood uveitis. *Ophthalmology* 2009 Aug;116(8):1544-51, 1551.e1. doi: 10.1016/j.opthta.2009.05.002.
11. Keino H, Watanabe T, Taki W, et al. Clinical features of uveitis in children and adolescents at a tertiary referral centre in Tokyo. *Br J Ophthalmol.* 2017;101(4):406–10.
12. Abdwani R . Challenges of childhood uveitis. *Sultan Qaboos Univ Med J.* 2009;9(3):247–56.
13. Rahman N, Petrushkin H, Solebo AL. Paediatric autoimmune and autoinflammatory conditions associated with uveitis. *Ther Adv Ophthalmol.* 2020;12:2515841420966451. doi: 10.1177/2515841420966451.
14. Hyrich KL, Baildam E, Pickford H, Chieng A, Davidson JE, Foster H, Gardner-Medwin J, Wedderburn LR, Thomson W. Influence of past breast feeding on pattern and severity of presentation of juvenile idiopathic arthritis. *Arch Dis Child.* 2016;101(4):348–51 Apr. doi: 10.1136/archdischild- 2014- 308117
15. Haasnoot AJW, Schilham MW, Kamphuis S, Hissink Muller PCE, Heiligenhaus A, Foell D, et al. Identification of an Amino Acid Motif in HLA-DR  $\beta$ 1 that distin-

- guishes uveitis in patients with juvenile idiopathic arthritis. *Arthritis Rheumatol.* 2018;70(7):1155–65. doi: 10.1002/art.40484.
16. Pang T, Du L, Li F, Liu Y, Ma X, Cao Q, et al. Association of apoptosis genes in PDCD1 but not PDCD1LG2, FAS, and FASLG with pediatric idiopathic uveitis in Han Chinese. *Pediatr Res.* 2020;87(4):634–8. doi: 10.1038/s41390-019-0612-4.
  17. Chen L, Pai V, Levinson R, Sharpe AH, Freeman GJ, Braun J, Gordon LK. Constitutive neuronal expression of the immune regulator, programmed death 1 (PD-1), identified during experimental autoimmune uveitis. *Ocul Immunol Inflamm.* 2009;17(1):47–55. doi: 10.1080/09273940802491884.
  18. Jari M, Shiari R, Salehpour O, et al. Epidemiological and advanced therapeutic approaches to treatment of uveitis in pediatric rheumatic diseases: a systematic review and meta-analysis. *Orphanet J Rare Dis.* 2020;15(1):41. doi: 10.1186/s13023-020-1324-x.
  19. Edelsten C, Reddy MA, Stanford MR, Graham EM. Visual loss associated with pediatric uveitis in english primary and referral centers. *Am J Ophthalmol.* 2003;135(5):676–80. doi: 10.1016/s0002-9394(02)02148-7.
  20. Vitale AT, Graham E, de Boer JH. Juvenile idiopathic arthritis-associated uveitis: clinical features and complications, risk factors for severe course, and visual outcome. *Ocul Immunol Inflamm.* 2013;21(6):478–85 Dec. doi: 10.3109/09273948.2013.815785.
  21. Heiligenhaus A, Klotsche J, Tappeiner C, Sengler C, Niewerth M, Liedmann I, et al. Predictive factors and biomarkers for the 2-year outcome of uveitis in juvenile idiopathic arthritis: data from the inception cohort of newly diagnosed patients with juvenile idiopathic arthritis (ICON-JIA) study. *Rheumatology (Oxford).* 2019;58(6):975–86. doi: 10.1093/rheumatology/key406.74.
  22. Paroli MP, Spinucci G, Liverani M, Monte R, Pezzi PP. Uveitis in childhood: an Italian clinical and epidemiological study. *Ocul Immunol Inflamm.* 2009;17(4):238–42. doi: 10.1080/09273940802702561.
  23. Rahimi M, Oustad M, Ashrafi A. Demographic and clinical features of pediatric uveitis at a tertiary referral center in Iran. *Middle East Afr J Ophthalmol.* 2016;23(3):237–40. doi: 10.4103/0974-9233.186096.
  24. Lonngi M, Aguilar MC, Ríos HA, Aristizábal-Duque CH, Rodríguez FJ, de-la-Torre A. Pediatric uveitis: experience in Colombia. *Ocul Immunol Inflamm.* 2016;24(4):410–14. doi: 10.3109/09273948.2016.1160129.
  25. Kim L, Li A, Angeles-Han S, Yeh S, Shantha J. Update on the management of uveitis in children: an overview for the clinician. *Expert Rev Ophthalmol.* 2019;14(4-5):211–18. doi: 10.1080/17469899.2019.1663731.
  26. Heiligenhaus A, Heinz C, Edelsten C, Kotaniemi K, Minden K. Review for disease of the year: epidemiology of juvenile idiopathic arthritis and its associated uveitis: the probable risk factors. *Ocul Immunol Inflamm.* 2013;21(3):180–91. doi: 10.3109/09273948.2013.791701
  27. Dobrin RS, Vernier RL, Fish AL. Acute eosinophilic interstitial nephritis and renal failure with bone marrow-lymph node granulomas and anterior uveitis. A new syndrome. *Am J Med.* 1975;59(3):325–33. doi: 10.1016/0002-9343(75)90390-3.
  28. Calandra S, Gallo MC, Consolaro A, Pistorio A, Lattanzi B, Bovis F, Muratore V, De Marco R, Martini A, Ravelli A. Female sex and oligoarthritis category are not risk factors for uveitis in Italian children with juvenile idiopathic arthritis. *J Rheumatol.* 2014;41(7):1416–25 Jul. doi: 10.3899/jrheum.131494.

29. Madigan WP, Raymond WR, Wroblewski KJ, Thebpatiphat N, Birdsong RH, Jaafar MS. A review of pediatric uveitis: Part I. Infectious causes and the masquerade syndromes. *J Pediatr Ophthalmol Strabismus*. 2008;45(3):140–9. doi: 10.3928/01913913-20080501-16
30. Sancho L, Kramer M, Koriat A, Eiger-Moscovich M, Sharon Y, Amer R. Complications in Intermediate uveitis: prevalence, time of onset, and effects on vision in short-term and long-term follow-Up. *Ocul Immunol Inflamm*. 2019;27(3):447–55. doi: 10.1080/09273948.2017.1420203.
31. Ozdal PC, Sen E, Yazici A, Ozturk F. Patterns of childhood-onset uveitis in a referral center in Turkey. *J Ophthalmic Inflamm Infect*. 2012;2(1):13–19 MarEpub 2011 Oct 16. doi: 10.1007/s12348-011-0044-8.
32. Sauberan DP. Pediatric uveitis. *Int Ophthalmol Clin*. 2010;50(4):73–85. doi: 10.1097/IIO.0b013e3181f0f2b5.
33. Kalinina Ayuso V, ten Cate HA, van den Does P, Rothova A, de Boer JH. Young age as a risk factor for complicated course and visual outcome in intermediate uveitis in children. *Br J Ophthalmol*. 2011;95(5):646–51. doi: 10.1136/bjo.2010.184267.
34. Chan NS, Choi J, Cheung CMG. Pediatric uveitis. *Asia Pac J Ophthalmol (Phila)*. 2018;7(3):192–9. doi: 10.22608/APO.2018116.
35. Hoffman AL, Milman N, Byg KE. Childhood sarcoidosis in Denmark 1979–1994: incidence, clinical features and laboratory results at presentation in 48 children. *Acta Paediatr*. 2004;93:30–6.
36. McMoli TE, Mordi VP, Grange A, Abiose A. Tuberculous panophthalmitis. *J Pediatr Ophthalmol Strabismus*. 1978;15(6):383–5 Nov-Dec.
37. Amer R, Brannan S, Forrester JV. Inflammatory choroidal neovascular membrane in presumed ocular Lyme borreliosis. *Acta Ophthalmol*. 2009;87(3):346–8 May. doi: 10.1111/j.1755-3768.2007.01160.x.
38. Karma A, Seppälä I, Mikkilä H, Kaakkola S, Viljanen M, Tarkkanen A. Diagnosis and clinical characteristics of ocular Lyme borreliosis. *Am J Ophthalmol*. 1995;119(2):127–35. doi: 10.1016/s0002-9394(14)73864-4.
39. Balasundaram MB, Andavar R, Palaniswamy M, Venkatapathy N. Outbreak of acquired ocular toxoplasmosis involving 248 patients. *Arch Ophthalmol*. 2010;128(1):28–32 JanErratum in: *Arch Ophthalmol*. 2010 Apr;128(4):508. doi: 10.1001/archophthalmol.2009.354.
40. Rothova A, Bosch-Driessen LE, van Loon NH, Treffers WF. Azithromycin for ocular toxoplasmosis. *Br J Ophthalmol*. 1998;82(11):1306–8. doi: 10.1136/bjo.82.11.1306.
41. Sungur GK, Hazirolan D, Yalvac I, Ozer PA, Yuksel D, Vural ET, Duman S. Clinical and demographic evaluation of Behçet disease among different paediatric age groups. *Br J Ophthalmol*. 2009;93(1):83–7. doi: 10.1136/bjo.2007.137141.
42. Oray M, Khachatryan N, Ebrahimiadib N, Abu Samra K, Lee S, Foster CS. Ocular morbidities of juvenile idiopathic arthritis-associated uveitis in adulthood: results from a tertiary center study. *Graefes Arch Clin Exp Ophthalmol*. 2016;254:1841–9. doi: 10.1007/s00417-016-3340-z.
43. Maleki A, Anesi SD, Look-Why S, Manhapra A, Foster CS. Pediatric uveitis: a comprehensive review. *Surv Ophthalmol*. (2022) 67:510–29. doi: 10.1016/j.survophthal.2021.06.006.

44. Jinagal J, Gupta G, Agarwal A, Aggarwal K, Akella M, Gupta V, et al. Safety and efficacy of dexamethasone implant along with phacoemulsification and intraocular lens implantation in children with juvenile idiopathic arthritis associated uveitis. *Indian J Ophthalmol.* 2019;67(1):69–74. doi: 10.4103/ijo.IJO \_ 713 \_ 18.
45. Wiese C, Heiligenhaus A, Heinz C. Changes in inflammatory activity after glaucoma filtration surgery in children with chronic anterior uveitis. *Ocul Immunol Inflamm.* 2016;24(4):397–401. doi: 10.3109/09273948.2015.1088041.
46. Böhm MR, Tappeiner C, Breitbach MA, Zurek-Imhoff B, Heinz C, Heiligenhaus A. Ocular hypotony in patients with juvenile idiopathic arthritis-associated uveitis. *Am J Ophthalmol.* 2017;173:45–55. doi: 10.1016/j.ajo.2016.09.018.