

# AĞRI YÖNETİMİ

## 30. BÖLÜM

Zeynep GÜMÜŞKANAT TABUR<sup>1</sup>

### 1.Giriş

Ağrı toplumda en sık görülen sağlık problemlerinden biridir ve kaynağı ne olursa olsun ağrı tedavisi, tüm hastaların insani hakkıdır. Uluslararası Ağrı Araştırmaları Teşkilatı (IASP)' e göre ağrı; vücudun herhangi bir yerinden kaynaklanan, gerçek veya olması muhtemel doku hasarına eşlik eden, hastanın geçmişteki deneyimleri ile ilgili emosyonel veya sensoriyel hoş olmayan bir duyum ve davranıştır (1). Ağrının hem fizyolojik hem de duygusal ve psikolojik komponentleri bulunmaktadır. Ağrıya yanıt bireyler arasında, hatta aynı bireyde farklı zamanlarda değişiklik gösterebilir.

Ağrı; başlama zamanına, oluş mekanimasına, etyolojisine, kaynaklandığı bölgeye göre dört alt gruba ayrılabilir (2).

- Başlama zamanına göre: Akut ağrı, kronik ağrı
- Mekanizmasına göre: Nosiseptif ağrı (somatik, viseral), nöropatik ağrı (santral, periferik), psikosomatik ağrı (psikojenik ağrı) vb.
- Etiyolojisine göre: Kanser ağrısı, postherpatik nevralji vb.
- Kaynaklandığı bölgeye göre: Baş ağrısı, yüz ağrısı, sırt ağrısı vb.

Akut ağrı; travma, hastalık veya cerrahiye karşı oluşan fizyolojik bir yanıt olup genellikle kendini sınırlar. Aynı zamanda doku hasarının varlığını ve devam ettiğini göstermesi açısından uyarıcı ve koruyucudur. Kronik ağrı ise; genellikle 3 aydan uzun sürer. Hastalık ya da doku travmasına bağlı olabileceği gibi herhangi bir travma olmadan da gelişebilir. Kronik ağrı patolojik ağrıdır, santral ve periferik sinir sisteminde sensitizasyon gibi değişikliklerle birliktedir.

<sup>1</sup> Uz.Dr ,Bursa Şehir Hastanesi, Anesteziyoloji ve Reanimasyon ,ztabor19@gmail.com

en sık morfin ve fentanil kullanılır. Bu yöntem özellikle diğer yollarla yeterli ağrı tedavisi sağlanamayan kanser hastalarında tercih edilir, solunum depresyonu, granülom oluşumu gibi komplikasyonlar açısından hastalar ve yakınları eğitilmelidir (82).

## 7. Sonuç

Sonuç olarak akut ve kronik ağrı tedavisinde bireyler psikolojik sosyal, fiziksel özellikleri, alışkanlıkları ve çevresel faktörler göz önünde bulundurularak biyopsikososyal ve multimodal yaklaşımla bireysel tedavi programları oluşturulmalıdır.

## KAYNAKÇA

1. Merskey H, Bogduk N. A current list with definitions and notes on usage. In Classification of Chronic Pain, 2nd ed. Seattle: IASP Press; 1994.
2. Erdine S. Ağrı Mekanizmaları İstanbul: Nobel Tıp Kitabevleri; 2007; 19-26.
3. Erdine S. Ağrı Mekanizmaları ve Ağrıya Genel Yaklaşım. In: Erdine S, editor. Ağrı. İstanbul: Nobel Tıp Kitabevleri; 2007; 37-49.
4. Carvalho B, Clark DJ, Angst MS. Local and systemic release of cytokines, nerve growth factor, prostaglandin E2, and substance P in incisional wounds and serum following cesarean delivery. J Pain 2008; 9 : 650-57
5. Chapman CR. The psychophysiology of pain. In: Loeser JD, Butler SH, Chapman CR, Turk DC, eds. Bonica's Management of Pain. 3rd ed. Baltimore, MD: Lippincott Williams & Wilkins; 2001:461-77.
6. Sandkuler J. Models and mechanisms of hyperalgesia and allodynia. Physiol Rev. 2009;89(2):707-58.
7. Eti Z. Postoperatif Ağrı Tedavisi. Erdine S (ed.) Ağrı İstanbul Nobel Tıp Kitapevi, 2007;150-67.
8. Coniam S, Mendham J: Assessment of the patient with Pain, Principles of Pain Management for Anaesthetists, Hadder Arnold, 2006:24-35
9. Saka Ö. Ağrıyı ölçme ve değerlendirme. Türkiye Klinikleri J Fam Med-Special Topics 2011; 2 (2): 15- 20.
10. Farrar JT, Young JP Jr, LaMoreaux L. Clinical importance of changes in chronic pain intensity measured on an 11-point numerical pain rating scale. Pain 2001; 94: 149-158.
11. Kuusniemi K, Pöyhia R. Present-day challenges and future solutions in postoperative pain management: results from Pain Forum 2014. J Pain Res. 2016; 9: 25-36.
12. Uyar M, Eyigör C: Kronik Ağrı Tedavisi. Temel Anestezi, Ed. Keçik Y, Güneş Tıp Kitabevleri 2012:1023-36.
13. Hicks CL, von Baeyer CL, Spafford PA. The Faces pain scale revised. Pain 2001; 93: 173-183.
14. Roberts E, Delgado Nunes V, Buckner S, Latchem S, Constanti M, Doherty M, et al. Paracetamol: not as safe as we thought? A systematic literature review of observational studies. Annals of the rheumatic diseases. 2016;75(3):552-9.

15. Shahid M Manjula B P, Sunil B.V A. Comparative study of intravenous paracetamol and intravenous tramadol for postoperative analgesia in laparotomies. *Anesth Essays Res* 2016; 10(2):301-4
16. Misiolek H, Cettler M, Woron J, Wordliczek J, Dobrogowski J, Mayzner-Zawadzka E. The 2014 guidelines for post-operative pain management. *Anaesthesiology Intensive Therapy* 2014; 46( 4): 221–244
17. Bacchi S, Palumbo P, Sponta A, Coppolino MF. Clinical pharmacology of non-steroidal anti-inflammatory drugs: a review. *Antiinflamm Antiallergy Agents Med Chem.* 2012;11(1):52- 64.
18. Shun Li Kan, Bo Yang, Guang-Zhi Ning et al. Nonsteroidal Antiinflammatory Drugs as Prophylaxis for Heterotopic Ossification After Total Hip Arthroplasty *Medicine* Volume 94, Number 18, May 2015.
19. Singla N,Rock A, Pavliv L A multi-center,randomized,double-blind placebo-controlled trial of intravenous-ibuprofen for treatment of pain in postoperative orthopedic adult patients. *Pain Med* 2010; 11:1284-93
20. Chou R, Gordon DB, de Leon-Casasola OA et al. Management of Postoperative Pain: A Clinical Practice Guideline From the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists Committee on Regional Anesthesia, Executive Committee,and Administrative Council *J Pain.* 2016;17(2):131-57
21. Zaj,aczowska R, Leppert W, Mika J, Kocot-K,epska M, Woroń J, Wrzosek A, et al. Perioperative Immunosuppression and Risk of Cancer Progression: The Impact of Opioids on Pain Management. *Pain Res Manag.*2018;2018:9293704.
22. Haroutounian S. Postoperative opioids, endocrine changes, and immunosuppression. *Pain Rep.* 2018;3(2):e640.
23. Suna AKIN TAKMAZ, Postoperatif Ağrı Tedavisinde Opioidler Türkiye Klinikleri *J Anest Reanim-Special Topics* 2017;10(2):106-20
24. Hanks GW, Reid C. Contribution to variability in response to opioids. *Support Care Cancer* 2005; 13: 145-152)
25. Klepstad P, Kasa S, Borchgrevink PC. Starting Step III opioids for moderate to severe pain in cancer patients: Dose titration: A systemic review. *Palliat Med* 2011;25:424-30.
26. Tassinari D, Drudi F, Rosati M, et al. Transdermal opioids as front line treatment of moderate to severe cancer pain: a systemic review. *Palliat Med* 2011;25:478-87.
27. Leppert W, Luczak j. The role of tramadol in cancer pain treatment- a review. *Support Care Cancer* 2005; 13:5-17.
28. Hauritz RW, Hannig KE, Henriksen CW, Børglum J, Bjørn S, Bendtsen TF. The effect of perineural dexamethasone on duration of sciatic nerve blockade: a randomized, double-blind study 2018;62(4):548-57
29. T Corcoran, J Kasza, T G Short, et al. Intraoperative dexamethasone does not increase the risk of postoperative wound infection: a propensity score-matched post hoc analysis of the ENIGMA-II trial (EnDEX) Randomized Controlled Trial *Br J Anaesth* 2017 Feb;118(2):190-199.doi: 10.1093
30. Fozzard HA, Lee PJ, Lipkind GM. Mechanism of local anesthetic drug action on voltage-gated sodium channels. *Current pharmaceutical design.* 2005;11(21):2671-86.
31. Buckenmaier CC, Bleckner LL. Anaesthetic agents for advanced regional anaesthesia: A North American perspective. *Drugs.* 2005; 65: 745-59.

32. Schug SA, Palmer GM, Scott DA et al. Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine. Acute pain management : scientific evidence . Analgesic medicines. Fourt Edition 2015; 69-109
33. Cassidy KL, Reid GJ, McGrath PJ et al. A randomized double-blind, placebo-controlled trial of the EMLA patch for the reduction of pain associated with intramuscular injection in four to six-year-old children. *Acta Paediatr* 2001; 90:1329–1336.
34. Pasero C, Potenoy RK. Neurophysiology of pain and analgesi and the pathophysiology of neuropathic pain. In: Pasero C, McCaffery M, eds. *Pain Assessment and Pharmacologic Managemant*. St Louis, MO: Mosby Elsevier Inc; 2011:1-12.
35. Rae Frances Bell, Eija Anneli Kalso Ketamine for pain management *Pain Rep*. 2018; 3(5): e674. PMID: 30534625
36. Stahl SM, Porreca F, Taylor CP, Cheung R, Thorpe AJ, Clair A. The diverse therapeutic actions of pregabalin: is a single mechanism responsible for several pharmacological activities? *Trends Pharmacol Sci* 2013;34(6):332-9.
37. Kotsovolis G, Karakoulas K, Grosomanidis V, et al: Comparison between the combination of gabapentin, ketamine, lornoxicam, and local ropivacaine and each of these drugs alone for pain after laparoscopic cholecystectomy: a randomized trial. *Pain Practice* 2014
38. <http://www.fda.gov/news-events/fda-brief/fda-brief-fda-requires-new-warnings-gabapentinoids-about-risk-respiratory-depression>.
39. Alp ALPTEKİN Postoperatif Ağrı Tedavisinde Analjezik Dışındaki İlaçlar Türkiye Klinikleri *J Anest Reanim. Special Topics* 2017;10(2):121-30.
40. Role of Inhaled Methoxyflurane in the Management of Acute Trauma Pain, A. Fabbri, G. Ruggiano, S. G. Collado, et. al *J Pain Res*. 2020; 13: 1547–55, PMID: 32612382 DOI: 10.2147
41. Wu CL. Miller anestezi. Miller RD (eds). *Postoperatif Ağrı* (cilt 2). İzmir Güven Kitabevi. Altıncı Baskı. İzmir: 2010,2729-62.
42. Aydınlı I. Ortopedik Cerrahide Kronik Postoperatif Ağrı. *Türkiye Klinikleri J Anest Reanim-Special Topics* 2014;7(2):60-7
43. Erdine S. ağrı mekanizmaları ve ağrıya genel yaklaşım. *Ağrı. İstanbul: nobel kitapevi;* 2007:37-48.
44. Chang CB, Cho WS. Pain management protocols, peri-operative pain and patient satisfaction after total knee replacement: a multicentre study. *J Bone Joint Surg Br*. 2012;94(11):1511-6.
45. Clarke H, Poon M, Weinrib A, Katznelson R, Wentlandt K, Katz J. Preventive analgesia and novel strategies for the prevention of chronic post-surgical pain. *Drugs*. 2015,75(4):339-51
46. Katz J, Clarke H. Preventive analgesia and beyond: current status, evidence, and future directions. In: Rice A, Macintyre P, Walker M, Rowbotham D, editors. *Clinical pain management*. 2nd ed. London: Hodder Arnold; 2008:154-98.
47. Uysal HY, Acar HV, Kaya A ve ark: Postoperatif Ağrı Tedavisinde Uygulanan Hasta-Kontrollü Analjezi Yöntemlerinin Retrospektif İncelenmesi. *J Clin Exp*, 2013;4: 159-165.
48. Macres SM, Moore PG, Fishman SM. Akut pain management. In: Barash PG, Cullen BF, Stoelting RK, et al. eds. *Clinical Anesthesia*. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2013: 1611-44.
49. T Aydın, O Balaban Postoperatif Ağrıda Santral Bloklar Türkiye Klinikleri *J Anest Re-*

- anim-Special Topics 2017;10(2):131-8
50. E. Albrecht, K. J. Chin. Advances in regional anaesthesia and acute pain management: a narrative review. *Anaesthesia* 2020, 75 (Suppl. 1), e101-10
  51. A. Jacobs, A. Lemoine, G. P. Joshi, M. Van de Velde and F. Bonnet on behalf of the PROSPECT Working Group collaborators. PROSPECT guideline for oncological breast surgery: a systematic review and procedure-specific postoperative pain management recommendations. *Anaesthesia* 2020. doi:10.1111/anae.14964
  52. Guay J, Kopp S Epidural pain relief versus systemic opioid-based pain relief for abdominal aortic surgery. *Cochrane Database Systemic Review* 2016,(1):CD005059
  53. Rosero EB Joshi GP Nationwide incidence of serious complications of epidural analgesia in the United States. *Acta Anaesthesiol Scand* 2016;60(6):810-20
  54. Christopher L, Wu. Akut postoperatif ağrı. In Miller PP, ed. *Anestezi*. 6. Baskı. İzmir Güven Kitabevi 2010. p. 2729-62
  55. Bakan N, Saydam S, Gürel A. Çocuklarda postoperatif analjezide kaudal morfin uygulaması. *Turgut Özal Tıp Merkezi Dergisi* 1998;5(2,3):158-61
  56. Schnabel A, Reichl SU, Zahn PK, et al. Efficacy and safety of buprenorphine in peripheral nerve blocks: a meta-analysis of randomised controlled trials. *European Journal of Anaesthesiology* 2017;34: 576–86.57. Albrecht E, Reynvoet M, Fournier N, et al. Dose-response relationship of perineural dexamethasone for interscalene brachial plexus block: a randomised, controlled, triple-blind trial. *Anaesthesia* 2019; 74: 1001–8.
  58. Ilfeld BM, Morey TE, Wang RD, et al. Continuous popliteal sciatic nerve block for postoperative pain control at home: a randomized, double-blinded, placebo-controlled study. *Anesthesiology* 2002;97(4):959-65
  59. H. Kehlet. Enhanced postoperative recovery: good from afar, but far from good? *Anaesthesia* 2020, 75 (Suppl. 1), e54–e61 .
  60. Lenart MJ, WongK, Gupta RK, et al. The impact of peripheral nerve techniques on hospital stay following major orthopedic surgery. *Pain Med* 2012;13:828-34.
  61. Hofman-Klefer K, ElserT, Chappel D, et al. Does patient-controlled continuous interscalene block improve early functional rehabilitation after open shoulder surgery? *Anesthesia and Analgesia* 2008;106(3):991-6.
  62. Ilfeld BM, Meyer RS, Le LT, et al. Health-related quality of life after tricompartment knee arthroplasty with and without an extended-duration continuous femoral nerve block: a prospective, 1 year follow up of a randomized, triple masked, placebo-controlled study. *Anesthesia and Analgesia* 2009;108(4):1320-5.
  63. Ayten BİLİR, Akut Ağrı ve Postoperatif Ağrı Tedavisinde Rejyonel Anestezinin Yeri Türkiye Klinikleri *J Anest Reanim-Special Topics* 2015;8(3):177-85).
  64. Singelyn FJ, Deyaert M, Joris D, Pendeville E, Gouverneur J-M. Effects of intravenous patient-controlled analgesia with morphine, continuous epidural analgesia, and continuous three-in-one block on postoperative pain and knee rehabilitation after unilateral total knee arthroplasty. *Anesthesia & Analgesia*. 1998;87(1):88-92.
  65. Pericapsular Nerve Group (PENG) Block for Hip Fracture Regional Anesthesia and Pain Medicine 43(8):1 July 2018 DOI: 10.1097/AAP.0000000000000847
  66. Dong CC, Dong SL, He FC Comparison of Adductor Canal Block and Femoral Nerve Block for Postoperative Pain in Total Knee Arthroplasty: A Systematic Review and Meta-analysis. *Medicine(Baltimore)*.2016; 95(12), e2983.
  67. Gonzalez Sotelo V, Macule F, Minguell J, et al. Ultrasound-guided genicular nerve

- block for paincontrol after total knee replacement:Preliminary caseseries and technical note. *Rev Esp Anesthesiol Reanim*: 2017;64(10):568-76.
68. Abrahams MS, Hom JL, Noles LM, Aziz MF. Evidence-based medicine: ultrasound guidance for truncal blocks. *Reg Anesth Pain Med* 2010;35:36-42.
  69. Chin KJ, McDonnell JG, Carvalho B, Sharkey A, Pawa A, Gadsden J. Essentials of our current understanding: abdominal wall blocks. *Regional Anesthesia and Pain Medicine* 2017; 42: 133–83.
  70. Chin KJ. Thoracic wall blocks: from paravertebral to retrolaminar to serratus to erector spinae and back again – a review of evidence. *Best Practice and Research: Clinical Anaesthesiology* 2019; 33: 67–77.
  71. El-Boghdady K, Pawa A, Chin KJ. Local anesthetic systemic toxicity: Current perspectives. *Local Reg Anesth*. 2018;11:35-44. doi: 10.2147/LRA.S154512.
  72. Byager N, Hansen MS, Mathiesen O, et al. The analgesic effect of wound infiltration with local anaesthetics after breast surgery: a qualitative systematic review. *Acta Anaesthesiol Scand*; 58: 402–410. 2014
  73. Roger C, Debra B G, Oscar A L et al. Guidelines on the management of postoperative pain. Management of postoperative pain: A clinical practice guideline from the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' committee on regional anesthesia, executive committee, and Administrative council. *The Journal of Pain* 2016; 17(2):131-57.
  74. P.Parsa, N Saeedzadeh, G Roshanaei, The Effect of Entonox on Labour Pain Relief among Nulliparous Women: A Randomized Controlled Trial *J Clin Diagn Res*. 2017 Mar; 11(3): QC08–QC11. doi: 10.7860/JCDR/2017/21611.9362
  75. ACOG Committee Opinion. Postpartum Pain Management. *Obstetrics and Gynecology* 2018;132(1): 35-39
  76. Guideline from the Association of Paediatric Anaesthetist of Great Britain and Ireland. Good practice in postoperative and procedural pain management. 2nd Edition. *Pediatric Anesthesia*, 2012; 22 (Suppl. 1): 1–79
  77. Pierce CA, Voss B. Efficacy and safety of ibuprofen and acetaminophen in children and adults: a meta-analysis and qualitative review. *Ann Pharmacother*. 2010; 44:489-506
  78. Benzon HT, Ageson AN Akut ve Kronik Ağrı Yönetimi. Barash PG, Cullen BF, Stoelting RK, et al. *Klinik Anestezi Temelleri*. Lippincott Williams & Wilkins; 2017: p699-718.
  79. Brennan F, Carr D, Cousins M. Access to pain management-still very much a human right. *Pain Medicine* 2016; 17: 1785–9.
  80. Fayaz A, Ayis S, Panesar SS, et al. Assessing the relationship between chronic pain and cardiovascular disease: a systematic review and meta-analysis. *Scandinavian Journal of Pain* 2016; 13: 76–90.
  81. Roden A, Sturman E. World Health Organization. WHO's Pain Relief Ladder. [www.who.int/cancer/palliative/painladder/en/](http://www.who.int/cancer/palliative/painladder/en/) 2 2009.
  82. Benzon HT, Hurley RW, Deer T, et al. Chronic pain management. In: Barash PG, Cullen BF, Stoelting RK, et al. eds. *Clinical Anesthesia*. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2013: 1645-1671.
  83. Auret K, Schug SA. Pain management for the cancer patient - current practice and future developments. *Best Pract Res Clin Anaesthesiol*. 27(4):545-561, 2013.
  84. Benyamin RM, Manchikanti L, Parr AT, et al. The effectiveness of lumbar interlaminar

epidural injections in managing chronic low back and lower extremity pain. *Pain Phys.* 2012;15:E363-405.

85. Diwan S, Manchikanti L, Benyamin RM, et al. Effectiveness of cervical epidural injections in managing chronic neck and upper extremity pain. *Pain Phys.* 2012;15:E405-34.