

14. BÖLÜM

AKUT MEZENTER İSKEMİ

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Akut mezenterik iskemi (AMİ) akut karına yol açan, prognozu oldukça kötü bir patolojidir. Son yıllarda tanı ve tedavideki gelişmelere rağmen AMİ' de mortalite oranları hala %70-90 oranlarında devam etmektedir. Prognozun kötü olması sadece tanının geç dönemde konabilmesine bağlı olmayıp, bağırsak iskemisinin lokal ve sistemik etkilerinin yanı sıra yandaş hastalıklardan da kaynaklanmaktadır. AMİ'den kaynaklanan ölümlerin önlenmesinde en önemli nokta tanı ve tedavi yöntemlerini zamanında kullanarak kan akımını hızlıca yeniden sağlamaktır. AMİ tüm gastrointestinal hastalıkların %1-2'sini oluşturmakla birlikte insidansı belirgin olarak artmaktadır (1,2).

Akut mezenterik iskemi hastane başvurularının %1'inden daha azdır (3,4). Akut karın tablosundaki hastalarda insidansı %1 civarındadır ancak bu oran 70 yaş üstü hastalarda %10'a kadar çıkabilmektedir (4,5). Mortalitesi tanı ve tedavideki tüm gelişmelere rağmen %30 ila %100 arasında bildirilmiştir (2,6,3,7,8,9). AMİ tanısı spesifik bulguların olmaması nedeni ile zordur. Bu nedenle hastaların ancak üçte biri cerrahi eksplorasyondan ya da ölümden önce tanı alabilmektedir (3,8,10). Tanı süresi mortalite üzerine birincil etkili parametredir. İnce bağırsaklar kan akımında %75'e kadar olan azalmayı 6-12 saat boyunca tolere edebilir (11,12,13). Literatür erken tanının mortaliteyi azalttığını göstermektedir (6,12,13,14,15,16). Erken tanıda, özellikle radyolojik incelemelerdeki gelişmelere rağmen, sensitif ve spesifik bir biyomarker arayışı halen devam etmektedir (8, 15,17,18,19).

Akut mezenterik iskemi patofizyolojik sınıflandırmada 4 ana grupta incelenir (20,6).

1. Arteriyel emboli (%50)
2. Arteriyel trombüs(%20)

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Tablo 5: Kanıt Düzeyleri

Kanıt düzeyi 1A:	Randomize kontrollü çalışmaların meta-analizinden edilen kanıtlar
Kanıt düzeyi 1B:	En az bir randomize kontrollü çalışmadan elde edilen kanıt
Kanıt düzeyi 2A:	Randomizasyon olmadan en az bir kontrollü çalışmadan elde edilen kanıt
Kanıt düzeyi 2B:	En az bir tane yarı deneysel çalışmadan elde edilen kanıt
Kanıt düzeyi 3:	Karşılaştırmalı çalışmalar, korelasyon çalışmaları ve vaka kontrollü çalışmalar gibi deneysel olmayan tanımlayıcı çalışmalardan elde edilen kanıtlar
Kanıt düzeyi 4:	Uzman komite raporlarından, görüşlerinden veya saygı duyulan yazarların klinik deneyiminden elde edilen kanıtlar

KAYNAKLAR

1. Scheider TA, Longo WE, Ure T, Verrnava AM. Mesenteric ischemia : acute arterial syndromes. Dis Colon Rectum 1994;37:1163.
2. Yasuhara H. Acute mesenteric ischemia: the challenge of gastroenterology. Surgery Today 2005; 35:185.
3. Wyers MC. Acute Mesenteric Ischemia: Diagnostic Approach and Surgical Treatment. Semin Vasc Surg. 2010;23:9-20.
4. Schoots IG, Levi MM, Reekers JA, Lameris JS, van Gulik TM. Thrombolytic therapy for acute superior mesenteric artery occlusion. J Vasc Interv Radio.
5. Dahlke MH, Asshoff L, Popp FC, et al. Mesenteric ischemia--outcome after surgical therapy in 83 patients. Dig Surg. 2008;25(3):213-92005;16(3):317-29
6. Bobadilla JL. Mesenteric ischemia. Surg Clin North Am. 2013;93(4):925-40.
7. Oliva IB, Davarpanah AH, Rybicki FJ, et al. ACR Appropriateness Criteria * imaging of mesenteric ischemia. Abdom Imaging.2013;38(4):714-9.
8. Akyıldız H, Akcan A, Öztürk A, Sözüer E, Küçük C, Yücel A. D-dimer as a predictor of the need for laparotomy in patients with unclear non-traumatic acute abdomen. A preliminary study. Scand J Clin Lab Invest. 2008;68(7):612-7
9. Meng X, Liu L, Jiang H. Indications and procedures for second-look surgery in acute mesenteric ischemia. Surg Today. 2010;40(8):700-5.
10. Acosta S, Ogren M, Sternby NH, Bergqvist D, Björck M. Incidence of acute thromboembolic occlusion of the superior mesenteric artery--a population-based study. Eur J Vasc Endovasc Surg. 2004;27(2):145-50.
11. Klar E, Rahmanian PB, Bücken A, Hauenstein K, Jauch KW, Luther B. Acute mesenteric ischemia: a vascular emergency. Dtsch Arztebl Int. 2012;109(14):249-56.
12. Cudnik MT, Darbha S, Jones J, et al. The diagnosis of acute mesenteric ischemia: A systematic review and meta-analysis. Acad Emerg Med. 2013;20:1087-100.
13. Boley S.J., et al., An aggressive roentgenologic and surgical approach to acute mesenteric ischemia. Surg Annu, 1973. 5: p. 355-78.
14. Acosta S, Björck M. Modern treatment of acute mesenteric ischaemia. Br J Surg. 2014;101(1):100-8.
15. Acosta S, Nilsson T. Current status on plasma biomarkers for acute mesenteric ischemia. J Thromb Thrombolysis. 2012;33(4):355-61.

16. Clark, R.A. and T.E. Gallant, Acute mesenteric ischemia: angiographic spectrum. *AJR Am J Roentgenol*, 1984. 142(3): p. 555-62.
17. Akyıldız H, Akcan A, Öztürk A, Sözüer E, Küçük C, Karahan İ. The correlation of the Ddimer test and biphasic computed tomography with mesenteric computed tomography angiography in the diagnosis of acute mesenteric ischemia. *Am J Surg*. 2009;197(4):429-33
18. Yıkılmaz A, Karahan OI, Şenol S, Tuna IS, Akyıldız HA. Value of multislice computed tomography in the diagnosis of acute mesenteric ischemia. *Eur J Radiol*. 2011;80(2):297-302.
19. McKinsey, J.F. and B.L. Gewertz, Acute mesenteric ischemia. *Surg Clin North Am*, 1997. 77(2): p. 307-18.
20. Sise MJ. Acute mesenteric ischemia. *Surg Clin North Am*. 2014;94:165-81
21. Townsend CM, Beauchamp RD, Evers BM, Mattox K. *Sabiston Textbook of Surgery* (17th ed.) Saunders Company, New York, USA. 2004, p.24.
22. Sise MJ. Acute mesenteric ischemia. *Surg Clin North Am*. 2014;94:165-81.
23. Douard R, Chevallier JM, Delmas V, Cugnenc PH. Clinical interest of digestive arterial trunk anastomoses. *Surg Radiol Anat*. 2006;28(3):219-27.
24. Vokurka J, Olejnik J, Jedlicka V, Vesely M, Ciernik J, Paseka T. Acute mesenteric ischemia. *Hepatogastroenterology*. 2008;55(85):1349-52.
25. Acosta S, Epidemiology of mesenteric vascular disease: clinical implications. *Semin Vasc Surg*. 2010;23(1):4-8
26. Boley SJ, Brandt LJ, Sammartano RJ. History of mesenteric ischemia. The evolution of a diagnosis and management. *Surg Clin North Am* 1997; 77:275.
27. Acosta S. Mesenteric ischemia. *Curr Opin Crit Care* 2015; 21:171.
28. Björnsson S, Resch T, Acosta S. Symptomatic mesenteric atherosclerotic disease-lessons learned from the diagnostic workup. *J Gastrointest Surg* 2013; 17:973.
29. Bassiouny HS. Nonocclusive mesenteric ischemia. *Surg Clin North Am* 1997; 77:319.
30. Finucane PM, Arunachalam T, O'Dowd J, Pathy MS. Acute mesenteric infarction in elderly patients. *J Am Geriatr Soc* 1989; 37:355.
31. Kumar S, Sarr MG, Kamath PS. Mesenteric venous thrombosis. *N Engl J Med* 2001; 345:1683.
32. Rhee RY, Glociczki P, Mendonca CT, et al. Mesenteric venous thrombosis: still a lethal disease in the 1990s. *J Vasc Surg* 1994; 20:688.
33. Zhang J, Duan ZQ, Song QB, et al. Acute mesenteric venous thrombosis: a better outcome achieved through improved imaging techniques and a changed policy of clinical management. *Eur J Vasc Endovasc Surg* 2004; 28:329.
34. Shelton AA, Schrock TR, Welton ML. *Small intestine*. Way LW (Ed). *Surgical diagnosis & treatment*. 11th ed. New York, NW: Lange Medical Books/McGraw Hill, 2003:674-704
35. Gürbüz AK. İskemik Barsak Hastalıkları. [serial online] 2007. [http://www.endoskopist.org.images/muayenehane.jpg](http://www.endoskopist.org/images/muayenehane.jpg)
36. Gönen Ö. Barsakların Vasküler Hastalıkları. İliçin G, Ünal S, Biberoğlu K, Akalın S, Süleymanlar G (Editörler). *Temel İç Hastalıkları'nda*. 1. baskı. Ankara: Güneş Kitabevi; 2004:1018-23
37. Sabiston David C. (Çeviri: A. Kazancıgil). *Temel Cerrahi*. Ankara: Güven Kitabevi; 1979:244-54
38. Corman G, Marvin L, Allison Stephen I, Kuehne Jonathan P. (Çeviri: Ö. Alabaz). *Kolon ve Rektal Cerrahinin El Kitabı*. Adana: Nobel tıp Kitabevleri; 2004:687-90
39. Schrock TR. *Acute vascular lesions of the small intestine & mesentery*. Way Lawrence W (Ed.). *Surgical diagnosis & treatment*. 9th ed. California Appleton&Lange; 1991:626-9
40. Yasura H, *Acute Mesenteric Ischemia: The Challenge of Gastroenterology*. *Surg Today* 2005;35:185-195
41. Hunter GC, Guernsey JM. Mesenteric ischemia. *Med Clin North Am* 1988; 72:1091.
42. Feuerstadt P, Brandt LJ. Colon ischemia: recent insights and advances. *Curr Gastroenterol Rep* 2010; 12:383.

43. Montoro MA, Brandt LJ, Santolaria S, et al. Clinical patterns and outcomes of ischaemic colitis: results of the Working Group for the Study of Ischaemic Colitis in Spain (CIE study). *Scand J Gastroenterol* 2011; 46:236.
44. Hansen KJ, Wilson DB, Craven TE, et al. Mesenteric artery disease in the elderly. *J Vasc Surg.* 2004;40(1):45-52
45. Glenister KM, Corke CF. Infarcted intestine: a diagnostic void. *ANZ J Surg* 2004; 74:260.
46. Cudnik MT, Darbha S, Jones J, et al. The diagnosis of acute mesenteric ischemia: A systematic review and meta-analysis. *Acad Emerg Med* 2013; 20:1087.
47. Lange H, Jäckel R. Usefulness of plasma lactate concentration in the diagnosis of acute abdominal disease. *Eur J Surg* 1994; 160:381.
48. Wilson C, Imrie CW. Amylase and gut infarction. *Br J Surg* 1986; 73:219.
49. Gearhart SL, Delaney CP, Senagore AJ, et al. Prospective assessment of the predictive value of alpha-glutathione S-transferase for intestinal ischemia. *Am Surg* 2003; 69:324.
50. Jamieson WG, Marchuk S, Rowsom J, Durand D. The early diagnosis of massive acute intestinal ischaemia. *Br J Surg* 1982; 69 Suppl:S52.
51. Polk JD, Rael LT, Craun ML, et al. Clinical utility of the cobalt-albumin binding assay in the diagnosis of intestinal ischemia. *J Trauma* 2008; 64:42.
52. Salomone T, Tosi P, Palareti G, et al. Coagulative disorders in human acute pancreatitis: role for the D-dimer. *Pancreas* 2003; 26:111.
53. Adam DJ, Haggart PC, Ludlam CA, Bradbury AW. Hemostatic markers before operation in patients with acutely symptomatic nonruptured and ruptured infrarenal abdominal aortic aneurysm. *J Vasc Surg* 2002; 35:661.
54. Gearhart SL, Delaney CP, Senagore AJ, et al. Prospective assessment of the predictive value of alpha-glutathione S-transferase for intestinal ischemia. *Am Surg* 2003; 69:324.
55. Derikx JP, Schellekens DH, Acosta S. Serological markers for human intestinal ischemia: A systematic review. *Best Pract Res Clin Gastroenterol* 2017; 31:69.
56. Matsumoto S, Sekine K, Funaoka H, et al. Diagnostic performance of plasma biomarkers in patients with acute intestinal ischaemia. *Br J Surg* 2014; 101:232.
57. Klein HM, Lensing R, Klosterhalfen B, et al. Diagnostic imaging of mesenteric infarction. *Radiology* 1995;197:79
58. Li KC. Magnetic resonance angiography of the visceral arteries: techniques and current applications. *Endoscopy* 1997; 29:496.
59. Mitsuyoshi A, Obama K, Shinkura N, et al. Survival in nonocclusive mesenteric ischemia: early diagnosis by multidetector row computed tomography and early treatment with continuous intravenous high-dose prostaglandin E(1). *Ann Surg* 2007; 246:229.
60. Hagspiel KD, Leung DA, Angle JF, et al. MR angiography of the mesenteric vasculature. *Radiol Clin North Am* 2002; 40:867.
61. Bradbury MS, Kavanagh PV, Chen MY, et al. Noninvasive assessment of portomesenteric venous thrombosis: current concepts and imaging strategies. *J Comput Assist Tomogr* 2002; 26:392.
62. Ofer A, Abadi S, Nitecki S, et al. Multidetector CT angiography in the evaluation of acute mesenteric ischemia. *Eur Radiol* 2009; 19:24.
63. Aschoff AJ, Stuber G, Becker BW, et al. Evaluation of acute mesenteric ischemia: accuracy of biphasic mesenteric multi-detector CT angiography. *Abdom Imaging* 2009; 34:345.
64. Bala M, Kashuk J, Moore EE, et al. Acute mesenteric ischemia: guidelines of the World Society of Emergency Surgery. *World J Emerg Surg* 2017; 12:38
65. Reinus JF, Brandt LJ, Boley SJ. Ischemic diseases of the bowel. *Gastroenterol Clin North Am* 1990; 19:319.
66. Lim S, Halandras PM, Bechara C, et al. Contemporary Management of Acute Mesenteric Ischemia in the Endovascular Era. *Vasc Endovascular Surg* 2019; 53:42.
67. Moszkowicz D, Mariani A, Trésallet C, Menegaux F. Ischemic colitis: the ABCs of diagnosis and surgical management. *J Visc Surg* 2013; 150:19.

68. Huddy SP, Joyce WP, Pepper JR. Gastrointestinal complications in 4473 patients who underwent cardiopulmonary bypass surgery. *Br J Surg* 1991; 78:293.
69. Yadav S, Dave M, Edakkanambeth Varayil J, et al. A population-based study of incidence, risk factors, clinical spectrum, and outcomes of ischemic colitis. *Clin Gastroenterol Hepatol* 2015; 13:731.
70. Brandt LJ, Feuerstadt P, Blaszkia MC. Anatomic patterns, patient characteristics, and clinical outcomes in ischemic colitis: a study of 313 cases supported by histology. *Am J Gastroenterol* 2010; 105:2245.
71. Longo WE, Ballantyne GH, Gusberg RJ. Ischemic colitis: patterns and prognosis. *Dis Colon Rectum* 1992; 35:726.
72. Antolovic D, Koch M, Hinz U, et al. Ischemic colitis: analysis of risk factors for postoperative mortality. *Langenbecks Arch Surg* 2008; 393:507.
73. Castleberry AW, Turley RS, Hanna JM, et al. A 10-year longitudinal analysis of surgical management for acute ischemic colitis. *J Gastrointest Surg* 2013; 17:784.
74. Tilsed JVT, Casamassima A, Kurihara H, et al. ESTES guidelines: Acute Mesenteric Ischaemia. *Eur J Trauma Emerg Surg* (2016) 42:253–270. DOI 10.1007/s00068-016-0634-0