

MYELOMA BAĞLI VERTEBRAL HASTALIKLARDA CERRAHİ TEDAVİNİN YERİ

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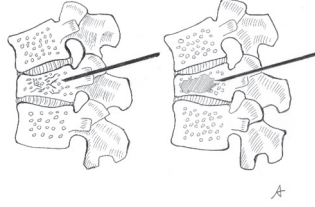
GİRİŞ

Multiple myelom plazma hücrelerinin klonal proliferasyonu ile giden lenfoproliferatif bir hastalıktır. Multiple myelom hastalarının yaklaşık %80'inde tanı esnasında hareketi kısıtlayan ve morbiditeyi artıran sitokinlerin indüklediği osteoklastik kemik rezorpsiyonuna bağlı kemik lezyonu saptanır. Myeloma bağlı kemik ağrısına yol açan patolojik kırık, osteoporoz, osteolitik kemik lezyonu, spinal instabilite, spinal kord, kök basısı ve extramedüller plasmasitomu olan hastalar myeloma bağlı kemik hastalığı (MKH) olarak tanımlanırlar. MKH nedeniyle hastalık süresince %55-70 hastada vertebra tutulumu ve %30'un üzerinde nörolojik defisit gelişir.

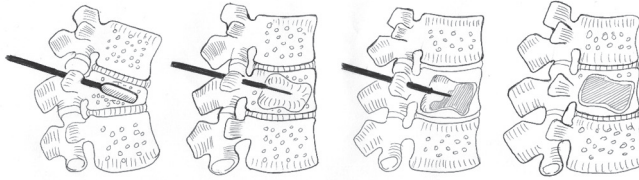
Multiple myelom serum, idrar ve kemik iliğinde saptanan monoklonal immunoglobulinlerle karakterizedir. Karakteristik klinik bulguları anemi, enfeksiyon, böbrek yetmezliği, hiperkalsemi ve patolojik kırıklardır. Multiple myelom tedavisi klasik olarak yüksek doz kemoterapi sonrası olog veya allojenik kök hücre transplantasyonudur. Yeni ajanlardan immunmodulator ilaçların (thalidomide, lenalidomide, proteasome inhibitörü bortezomib) konvansiyonel kemoterapi ile kombinasyonu klasik tedaviyi değiştirmiş ve sonuçları geliştirmiştir. Bu yeni ve daha agresif tedaviler beklenen yaşam süresini uzatmış ve 10 yıllık sağkalım %30-40'ın üzerine çıkmıştır. Beklenen yaşam süresindeki artış bu süredeki destek bakımı ve hayat kalitesinin önemini artırmıştır (1).

Kemik ağrısının kemoterapi ve/veya radyoterapi ile azaltılabileceği konusunda fikir birliği mevcuttur. Bununla birlikte inatçı ağrı, patolojik kırık, spinal instabilite, spinal kord veya sinir kökü kompresyonu durumlarında ve büyük yumuşak doku kitlelerin varlığında tıbbi tedavinin etkisi sınırlıdır. Bu hastalarda cerrahi

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Şekil 1 : Vertebroplasti tekniği



Şekil 2 : Kifoplasti tekniği

Kaynaklar

1. Du XR, Hu YC, Xiao JR, et al. Summary of the surgical treatment of multiple myeloma in China. *Zhong Guo Gu Yu Guan Jie Za Zhi*, 2015, 4: 590–591. (Cross ref)
2. Du X, Chen WM, Chen S. *The Surgical Treatment of Multiple Myeloma Bone Disease*. Beijing: People Health Press, 2013; 50–59.
3. Lu J, Lu J, Chen W, et al. Clinical features and treatment outcome in newly diagnosed Chinese patients with multiple myeloma: results of a multicenter analysis. *Blood Cancer J*, 2014, 4: e239.
4. Li S, Xu Y, Wang Y, et al. The clinical features of myeloma bone disease. *Zhonghua Xue Ye Xue Za Zhi*, 2010, 31: 228–232. (Cross ref)
5. Zhang, X, Du, X. The progress on the surgical treatment in multiple myeloma bone disease. *Zhong Guo Gu Yu Guan Jie Za Zhi*, 2011, 10: 314– 318. (Cross ref)
6. Surgeon's Committee of the Chinese Myeloma Working Group of the International Myeloma Foundation. Consensus on surgical management of myeloma bone disease. *Orthopaedic Surgery*, 2016;8:263-269.
7. Chinese Hematologists Association, Chinese Myeloma Working Group. Guideline on the diagnosis and treatment in multiple myeloma in China (2013). *Zhong Hua Nei Ke Za Zhi*, 2013, 52:791– 795. (Cross ref)
8. Derlin T, Bannas P. Imaging of multiple myeloma: current concepts. *World J Orthop*, 2014, 5: 272–282.
9. Pianko MJ, Terpos E, Roodman GD, et al. Whole-body low-dose computed tomography and advanced imaging techniques for multiple myeloma bone disease. *Clin Cancer Res*, 2014, 20: 5888–5897.
10. Ferraro R, Agarwal A, Martin-Macintosh EL, et al. MR imaging and PET/CT in diagnosis and management of multiple myeloma. *Radiographics*, 2015, 35: 438–454.
11. Raikumar SV, Dimopoulos MA, Palumbo A, et al. International Myeloma Working Group updated criteria for the diagnosis of multiple myeloma. *Lancet Oncol*, 2014, 15: e538–e548.

12. Li XC, Guo W, Yang RL, et al. Surgery for multiple myeloma of bone. *Zhonghua Wai Ke Za Zhi*, 2004, 42: 48–51 . (Cross ref)
13. Utzschneider S, Schmidt H, Weber P, et al. Surgical therapy of skeletal complications in multiple myeloma. *Int Orthop*, 2011, 35: 1209–1213.
14. Zhang XW, Du XR, Chen WM. Surgical treatment and prognostic analysis for multiple myeloma. *Zhong Guo Gu Yu Guan Jie Za Zhi*, 2014, 3: 501–506 . (Cross ref)
15. Jiang L, Yuan W, Liu X. Diagnosis and treatment of spinal multiple myeloma: 36 cases report. *Zhong Guo Ji Zhu Ji Sui Za Zhi*, 2011, 21: 540–544. (Cross ref)
16. Anderson KC, Alsina M, Bensinger W, et al. NCCN clinical practice guidelines in oncology: multiple myeloma. *J Natl Compr Canc Netw*, 2009, 7: 908–942
17. Dürr HR, Wegener B, Krödel A, et al. Multiplemyeloma: surgery of the spine: retrospective analysis of 27 patients. *Spine (PhilaPa 1976)*, 2002, 27: 320–324.
18. Cai W, Yan W, Huang Q, et al. Surgery for plasma cellneoplasia patients with spinal instability or neurological impairment caused byspinal lesions as thefirst clinical manifestation. *Eur Spine J*, 2015, 24:1761–1767.
19. Huang WD, Feng DP, Xiao JR,etal.Surgical intervention and radiotherapyoutcome of solitary plasmacytoma of cervical spine. *Zhonghua Wai Ke Za Zhi*,2010, 48: 697–701. (Cross ref)
20. Palumbo A, Avet-Loiseau H, Oliva S, et al. Revised international staging system for multiple myeloma:a report from international Myeloma Working Group. *J Clin Oncol*, 2015, 33: 2863–2869.
21. Lu J. Changes in multiple myeloma diagnostic criteria and its impact on treatment. *Zhongguo Zhong Liu Lin Chuang*, 2014, 41: 819–822 (Cross ref).
22. Zadnik PL, Goodwin CR, Karami KJ, et al. Outcomes following surgical intervention for impending and gross instability caused by multiple myeloma in the spinal column. *J Neurosurg Spine*, 2015, 22: 301–309.
23. The Committee of the Chinese Myeloma Working group, ChineseHematologists Association. Consensus on peripheral neuropathy of multiplemyeloma. *Zhong Hua Nei Ke Za Zhi*, 2015, 5: 821–824.(Cross ref)
24. Fisher CG, DiPaola CP, Ryken TC,etal.A novel classification system forspinal instability in neoplastic disease an evidence-based approach and expertconsensus from the spine oncology study group. *Spine Phila Pa* 1976. 2010,35: E1221–E1229
25. Tahir Latif, Mohamad A. Hussein2. Advances in Multiple Myeloma and Spine Disease Clinical Lymphoma & Myeloma, Vol. 6, No. 3, 228-233 2005
26. Jurczynszyn A, Czepko R, Banach M, et al. Percutaneous vertebroplasty for pathological vertebral compression fractures secondary to multiple myeloma— medium-term and long-term assessment of pain relief and quality of life. *Adv Clin Exp Med*, 2015, 24: 651–656.
27. Tancioni F, Lorenzetti M, Navarria P, et al. Vertebroplasty for pain relief and spinal stabilization in multiple myeloma. *Neurol Sci*, 2010, 31: 151–157
28. Li J, Yang H, Wang G. Diagnostic value of vertebral biopsy during percutaneous vertebroplasty or percutaneous kyphoplasty for vertebral compression fractures. *Zhong Guo Ji Zhu Ji Sui Za Zhi*, 2010, 20: 945–949 .(Cross ref)
29. Li Q, Ali AL, Hua S, et al. Routine biopsy during percutaneous kyphoplasty for elderly vertebral compression fracture. *Zhong Guo Gu Yu Guan Jie Wai Ke*, 2014, 7: 117–121.(Cross ref)
30. Papanastassiou ID, Eleraky M, Murtagh R, et al. Comparison of unilateral versus bilateral kyphoplasty in multiple myeloma patients and the importance of preoperative planning. *Asian Spine J*, 2014, 8: 244–252.
31. Galibert P, Deramond H, Rosat P, et al. Preliminary note on the treatment of vertebral angioma by percutaneous acrylic vertebroplasty. *Neurochirurgie* 1987; 33:166-168.
32. Jensen ME, Evans AJ, Mathis JM, et al. Percutaneous polymethylmethacrylate vertebroplasty in the treatment of osteoporotic vertebral body compression fractures: technical aspects. *AJNR Am J Neuroradiol* 1997;18:1897-1904.

33. Barr JD, Barr MS, Lemley TJ, et al. Percutaneous vertebroplasty for pain relief and spinal stabilization. *Spine* 2000; 25:923-928.
34. Cortet B, Cotten A, Boutry N, et al. Percutaneous vertebroplasty in patients with osteolytic metastases or multiple myeloma. *Rev Rhum Engl Ed* 1997; 64:177-183.
35. Dudeney S, Lieberman IH, Reinhardt MK, et al. Kyphoplasty in the treatment of osteolytic vertebral compression fractures as a result of multiple myeloma. *J Clin Oncol* 2002; 20:2382-2387.
36. Cotten A, Boutry N, Cortet B, et al. Percutaneous vertebroplasty: state of the art. *Radiographics* 1998; 18:311-320; discussion 320-323.
37. Cotten A, Dewatre F, Cortet B, et al. Percutaneous vertebroplasty for osteolytic metastases and myeloma: effects of the percentage of lesion filling and the leakage of methyl methacrylate at clinical follow-up. *Radiology* 1996; 200:525-530.
38. Deramond H, Wright NT, Belkoff SM. Temperature elevation caused by bone cement polymerization during vertebroplasty. *Bone* 1999; 25:17S-21S.
39. Einhorn TA. Vertebroplasty: an opportunity to do something really good for patients. *Spine* 2000; 25:1051-1052.
40. Phillips FM, Todd Wetzel F, Lieberman I, et al. An in vivo comparison of the potential for extravertebral cement leak after vertebroplasty and kyphoplasty. *Spine* 2002; 27:2173-2178; discussion 2178-2179.
41. Deramond H, Depriester C, Galibert P, et al. Percutaneous vertebroplasty with polymethylmethacrylate. Technique, indications, and results. *Radiol Clin North Am* 1998; 36:533-46.
42. Lieberman IH, Dudeney S, Reinhardt MK, et al. Initial outcome and efficacy of “kyphoplasty” in the treatment of painful osteoporotic vertebral compression fractures. *Spine* 2001; 26:1631-1638.
43. Dudeney S, Lieberman IH, Reinhardt MK, et al. Kyphoplasty in the treatment of osteolytic vertebral compression fractures as a result of multiple myeloma. *J Clin Oncol* 2002; 20:2382-2387.
44. Shi X, Mi C, Wang B, et al. Percutaneous cementoplasty in the treatment of multiple myeloma bone diseases. *Zhong Guo Lin Chuang Shi Yong Yi Xue*, 2015, 6: 31–33.
45. Wang Y, Guo W, Yang R, et al. Spinal myeloma: surgical outcome and prognostic factors. *Zhong Guo Ji Zhu Ji Sui Za Zhi*, 2014, 24: 1001–1006 .
46. Zeifang F, Zahlten-Hinguranage A, Goldschmidt H, et al. Long-term survival after surgical intervention for bone disease in multiple myeloma. *Ann Oncol*, 2005, 16: 222–227.