

Chapter 36

COMPREHENSIVE GERIATRIC ASSESSMENT OF PATIENTS WITH CANCER

Volkan ATMIŞ¹

Geriatricians, surgeons, and oncologists must work together to improve care for older cancer patients.[1]

GERIATRIC SYNDROMES

Aging of the population is increasing healthcare costs worldwide and is called “silver tsunami”. Dementia, delirium, depression, distress, osteoporosis, falls, fatigue, and frailty are some of the most common syndromes in elderly cancer patients.[2] In analysis of a national sample of 12,480 community-based elders, 60.3% of patients with cancer reported one or more geriatric syndromes compared with 53.2% of those without cancer. Elderly patients with cancer experience a higher prevalence of geriatric syndromes compared with those without cancer.[3] The prevalence of hearing trouble, urinary incontinence, falls, depression, and osteoporosis are significantly higher in patients with cancer than in those without. The majority of cancer incidence and mortality occurs in individuals aged older than 65 years, and the number of older adults with cancer is projected to significantly increase secondary to the aging. As such, understanding the changes accompanying age in the context of the cancer patient is of critical importance. 60 % of new cases and 70 % of mortality from cancer occur in patients ≥ 65 years of age. More than 50% of all cancers occur in elderly patients ≥ 65 years of age. In 10 years’ time, an estimated 70% of all cancers will be diagnosed in adults aged 65 years or older.[4]

Chronologic age alone provides little information regarding tolerance to cancer treatment and is not reliable for prediction of life expectancy. Among patients of the same age, there is wide heterogeneity in the ability to take aggressive therapy. The biology of certain neoplasms and responsiveness to therapy changes with patient age. Aging process can be associated with decreased physiologic reserve affecting multiple systems. This can be manifested as frailty and can in-

¹ Dr, Ankara University, volkanatmis@hotmail.com

vey-13(VES-13), Groningen Frailty Indicator(GFI), and Flemish version of the Triage Risk Screening Tool(fTRST)have prognostic value for survival. These screening tools may help physicians make informed treatment decisions in daily practice.

REFERENCES

1. Wise, J., *Geriatricians, surgeons, and oncologists must work together to improve care for older cancer patients*. BMJ, 2012. 344: p. e2314.
2. Flood, K.L., et al., *Geriatric syndromes in elderly patients admitted to an oncology-acute care for elders unit*. J Clin Oncol, 2006. 24(15): p. 2298-303.
3. Mohile, S.G., et al., *Association of cancer with geriatric syndromes in older Medicare beneficiaries*. J Clin Oncol, 2011. 29(11): p. 1458-64.
4. Pal, S.K., V. Katheria, and A. Hurria, *Evaluating the older patient with cancer: understanding frailty and the geriatric assessment*. CA Cancer J Clin, 2010. 60(2): p. 120-32.
5. Ethun, C.G., et al., *Frailty and cancer: Implications for oncology surgery, medical oncology, and radiation oncology*. CA Cancer J Clin, 2017. 67(5): p. 362-377.
6. Fried, L.P., et al., *Frailty in older adults: evidence for a phenotype*. J Gerontol A Biol Sci Med Sci, 2001. 56(3): p. M146-56.
7. McCarthy, A.L., et al., *Validation of a frailty index in older cancer patients with solid tumours*. BMC Cancer, 2018. 18(1): p. 892.
8. Wedding, U., et al., *Tolerance to chemotherapy in elderly patients with cancer*. Cancer Control, 2007. 14(1): p. 44-56.
9. Walter, L.C. and K.E. Covinsky, *Cancer screening in elderly patients: a framework for individualized decision making*. JAMA, 2001. 285(21): p. 2750-6.
10. Lee, S.J., et al., *Development and validation of a prognostic index for 4-year mortality in older adults*. JAMA, 2006. 295(7): p. 801-8.
11. Carey, E.C., et al., *Development and validation of a functional morbidity index to predict mortality in community-dwelling elders*. J Gen Intern Med, 2004. 19(10): p. 1027-33.
12. Studenski, S., et al., *Gait speed and survival in older adults*. JAMA, 2011. 305(1): p. 50-8.
13. Decoster, L., et al., *Screening tools for multidimensional health problems warranting a geriatric assessment in older cancer patients: an update on SIOG recommendations*. Ann Oncol, 2015. 26(2): p. 288-300.
14. Extermann, M., et al., *Use of comprehensive geriatric assessment in older cancer patients: recommendations from the task force on CGA of the International Society of Geriatric Oncology (SIOG)*. Crit Rev Oncol Hematol, 2005. 55(3): p. 241-52.
15. Mohile, S.G., et al., *Practical Assessment and Management of Vulnerabilities in Older Patients Receiving Chemotherapy: ASCO Guideline for Geriatric Oncology Summary*. J Oncol Pract, 2018. 14(7): p. 442-446.
16. Hurria, A., et al., *Senior adult oncology*. J Natl Compr Canc Netw, 2012. 10(2): p. 162-209.
17. Saltzstein, S.L. and C.A. Behling, *5- and 10-year survival in cancer patients aged 90 and older: a study of 37,318 patients from SEER*. J Surg Oncol, 2002. 81(3): p. 113-6; discussion 117.

18. Cohen, H.J., et al., *Frailty as determined by a comprehensive geriatric assessment-derived deficit-accumulation index in older patients with cancer who receive chemotherapy*. *Cancer*, 2016. 122(24): p. 3865-3872.
19. Ingram, S.S., et al., *Comprehensive assessment of the elderly cancer patient: the feasibility of self-report methodology*. *J Clin Oncol*, 2002. 20(3): p. 770-5.
20. Rodin, M.B. and S.G. Mohile, *A practical approach to geriatric assessment in oncology*. *J Clin Oncol*, 2007. 25(14): p. 1936-44.
21. Zagonel, V., *Importance of a comprehensive geriatric assessment in older cancer patients*. *Eur J Cancer*, 2001. 37 Suppl 7: p. S229-33.
22. Cohen, H.J., *Comprehensive geriatric assessment for patients with cancer*, M.E.S. Reed E Drews, MD, Editor. 2018: uptodate.
23. Kanesvaran, R., R. Cordoba, and R. Maggioro, *Immunotherapy in Older Adults With Advanced Cancers: Implications for Clinical Decision-Making and Future Research*. *Am Soc Clin Oncol Educ Book*, 2018(38): p. 400-414.
24. Welch, H.G., et al., *Estimating treatment benefits for the elderly: the effect of competing risks*. *Ann Intern Med*, 1996. 124(6): p. 577-84.
25. Shahrokni, A., et al., *Preventing Treatment-Related Functional Decline: Strategies to Maximize Resilience*. *Am Soc Clin Oncol Educ Book*, 2018(38): p. 415-431.
26. *Can we avoid the toxicity of chemotherapy in elderly cancer patients*.
27. Cohen, H.J., T. Harris, and C.F. Pieper, *Coagulation and activation of inflammatory pathways in the development of functional decline and mortality in the elderly*. *Am J Med*, 2003. 114(3): p. 180-7.
28. Taaffe, D.R., et al., *Cross-sectional and prospective relationships of interleukin-6 and C-reactive protein with physical performance in elderly persons: MacArthur studies of successful aging*. *J Gerontol A Biol Sci Med Sci*, 2000. 55(12): p. M709-15.
29. Wilson, C.J., H.J. Cohen, and C.F. Pieper, *Cross-linked fibrin degradation products (D-dimer), plasma cytokines, and cognitive decline in community-dwelling elderly persons*. *J Am Geriatr Soc*, 2003. 51(10): p. 1374-81.
30. Owusu, C., et al., *Vulnerable elders survey and socioeconomic status predict functional decline and death among older women with newly diagnosed nonmetastatic breast cancer*. *Cancer*, 2016. 122(16): p. 2579-86.
31. Lycke, M., et al., *The added value of an assessment of the patient's hand grip strength to the comprehensive geriatric assessment in G8-abnormal older patients with cancer in routine practice*. *J Geriatr Oncol*, 2019.
32. Balducci, L. and C. Beghe, *Cancer and age in the USA*. *Crit Rev Oncol Hematol*, 2001. 37(2): p. 137-45.
33. Hurria, A., et al., *Predicting chemotherapy toxicity in older adults with cancer: a prospective multicenter study*. *J Clin Oncol*, 2011. 29(25): p. 3457-65.
34. Extermann, M. and M. Aapro, *Assessment of the older cancer patient*. *Hematol Oncol Clin North Am*, 2000. 14(1): p. 63-77, viii-ix.
35. Daskivich, T.J., et al., *An Age Adjusted Comorbidity Index to Predict Long-Term, Other Cause Mortality in Men with Prostate Cancer*. *J Urol*, 2015. 194(1): p. 73-8.
36. Kawas, C., et al., *Reliability of the Blessed Telephone Information-Memory-Concentration Test*. *J Geriatr Psychiatry Neurol*, 1995. 8(4): p. 238-42.
37. Meyerhardt, J.A., et al., *Impact of diabetes mellitus on outcomes in patients with colon cancer*. *J Clin Oncol*, 2003. 21(3): p. 433-40.
38. Raji, M.A., et al., *Effect of a dementia diagnosis on survival of older patients after a diagnosis of breast, colon, or prostate cancer: implications for cancer care*. *Arch Intern Med*, 2008. 168(18): p. 2033-40.

39. Srokowski, T.P., et al., *Impact of diabetes mellitus on complications and outcomes of adjuvant chemotherapy in older patients with breast cancer*. J Clin Oncol, 2009. 27(13): p. 2170-6.
40. Tombaugh, T.N. and N.J. McIntyre, *The mini-mental state examination: a comprehensive review*. J Am Geriatr Soc, 1992. 40(9): p. 922-35.
41. Seeman, T.E., et al., *Social network ties and mortality among the elderly in the Alameda County Study*. Am J Epidemiol, 1987. 126(4): p. 714-23.
42. Tomaka, J., S. Thompson, and R. Palacios, *The relation of social isolation, loneliness, and social support to disease outcomes among the elderly*. J Aging Health, 2006. 18(3): p. 359-84.
43. Wallace, J.I., et al., *Involuntary weight loss in older outpatients: incidence and clinical significance*. J Am Geriatr Soc, 1995. 43(4): p. 329-37.
44. Reynolds, M.W., et al., *Weight, weight change, mortality in a random sample of older community-dwelling women*. J Am Geriatr Soc, 1999. 47(12): p. 1409-14.
45. Owusu, C. and N.A. Berger, *Comprehensive geriatric assessment in the older cancer patient: coming of age in clinical cancer care*. Clin Pract (Lond), 2014. 11(6): p. 749-762.
46. Newman, A.B., et al., *Weight change in old age and its association with mortality*. J Am Geriatr Soc, 2001. 49(10): p. 1309-18.
47. Bjorkman, M.P., et al., *Low parathyroid hormone levels in bedridden geriatric patients with vitamin D deficiency*. J Am Geriatr Soc, 2009. 57(6): p. 1045-50.
48. Puts, M.T., et al., *Medication problems in older, newly diagnosed cancer patients in Canada: How common are they? A prospective pilot study*. Drugs Aging, 2009. 26(6): p. 519-36.
49. Rubenstein, L.Z., et al., *Screening for undernutrition in geriatric practice: developing the short-form mini-nutritional assessment (MNA-SF)*. J Gerontol A Biol Sci Med Sci, 2001. 56(6): p. M366-72.
50. Sokol, K.C., J.F. Knudsen, and M.M. Li, *Polypharmacy in older oncology patients and the need for an interdisciplinary approach to side-effect management*. J Clin Pharm Ther, 2007. 32(2): p. 169-75.
51. Hofer, F., et al., *Fatigue at baseline is associated with geriatric impairments and represents an adverse prognostic factor in older patients with a hematological malignancy*. Ann Hematol, 2018. 97(11): p. 2235-2243.
52. Verduzco-Aguirre, H.C., et al., *The Effect of a Geriatric Oncology Clinic on Treatment Decisions in Mexican Older Adults With Cancer*. J Am Geriatr Soc, 2019.
53. Overcash, J. and M.A. Momeyer, *Comprehensive Geriatric Assessment and Caring for the Older Person with Cancer*. Semin Oncol Nurs, 2017. 33(4): p. 440-448.
54. Chakiba, C., et al., *The prognostic value of G8 for functional decline*. J Geriatr Oncol, 2019.