The Role of Palliative Care in Morbid Obesity

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Abstract: Providing care to patients with morbid obesity is uniquely challenging due to multimorbidity, functional impairment, and high mortality rates in this population. Older adults with morbid obesity, accelerated health decline, and malnutrition often approach the end of life before palliative and hospice services are initiated. Having a better understanding of the role of palliative and hospice care in the care of patients with morbid obesity is important for health care professionals. We describe an older adult with morbid obesity who experienced a steady health decline during his last year of life, requiring recurrent hospitalizations, subacute rehabilitation, and subsequent transition to long-term care and hospice. This case serves to demonstrate gaps in care for this population and provides recommendations for intervention.

Key words: massive obesity, malnutrition, end-of-life care, palliative care, hospice, long-term care
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The prevalence of obesity is increasing globally across all ages and has become a major public health concern in recent decades.[1] Over the next 2 decades, the prevalence of obesity is predicted to increase by 33%, and morbid obesity is predicted to increase by 130%.[2]

The current classification of obesity is based on body mass index (BMI), which is calculated as body weight in kilograms (kg) divided by height in meters (m) squared (kg/m^2). Overweight is defined as BMI between 25 and 29.9 kg/m^2; class I obesity as BMI between 30 and 34.9 kg/m^2; class II obesity as BMI between 35 and 39.9 kg/m^2; and class III obesity, also called "morbid" or "extreme obesity," as a BMI ≥ 40 kg/m.[2,3]

While the overweight designation may have a protective survival benefit among older adults and class I obesity has no association with higher mortality, individuals with class II and class III obesity have substantially higher all-cause mortality.[4] The higher rates of mortality associated with class III obesity is attributed to obesity-associated conditions including heart disease, cancer, and diabetes.[5] Class II and class III obesity lead to reduced life expectancy in younger age groups.[6]

Despite higher mortality rates in patients with morbid obesity, hospice and palliative care are underutilized in this population.[7] Hospice enrollment was significantly lower in adults with obesity compared with patients who had a BMI of 20 kg/m.[2,7] Although hospice use has markedly increased for patients with a number of medical conditions in recent years, referral rates for hospice remain low for patients with morbid obesity.[7,8] This could partly be due to the unpredictable, complex illness trajectory as well as difficulty with identification of frailty and prognostication in this population.

As the global epidemic of obesity grows, health care providers caring for older adults with obesity commonly face immense challenges due to multiple comorbidities, complex health care needs, and decisions about transition

to end-of-life (EOL) care, particularly in long-term care (LTC) settings.

In this article, we discuss the trajectory of an older adult with morbid obesity who experienced a rapid decline with frequent hospitalizations during his last year of life. Through this case, we illustrate the timing and role of palliative and hospice care in caring for this patient.

Case Presentation

A 64-year-old man was admitted to a tertiary medical center for management of congestive heart failure (CHF), atrial fibrillation, aspiration pneumonia, and pressure ulcers. This was his sixth hospitalization for disease exacerbation over a 10-month period.

His past medical history included morbid obesity (BMI=45 kg/m^2), CHF with diastolic dysfunction, aortic stenosis status-post aortic valve replacement, ventricular tachyarrhythmia status post automated implantable cardioverter defibrillator insertion, hypertension, type 2 diabetes, chronic obstructive pulmonary disease on continuous oxygen, bipolar disorder, and bilateral deep vein thrombosis with pulmonary embolism. He lived alone and had been estranged from his wife for 1 year.

Due to significant impairment completing activities of daily living and an inability to ambulate, he needed considerable assistance with self-care. His moderate frailty resulted in recurrent falls at home, which led to multiple emergency room visits, hospitalizations, and transfer to post-acute care settings for rehabilitation. During a 3-month stay in subacute rehabilitation, he had two hospitalizations for shortness of breath, hypotension, CHF exacerbation, bradycardia, and aspiration pneumonia. After failing to progress with rehabilitative therapies, he transitioned to an LTC facility. He was readmitted to the hospital for shortness of breath, as described above. During this hospitalization, the palliative care team was consulted because of his poor functional status, nutritional impairment with progressive weight loss and albumin level of 1.9 gm/dl, and multiple recent hospitalizations for CHF exacerbation and aspiration pneumonia. He was deemed an appropriate candidate for hospice care and was subsequently discharged to an LTC facility, where he died comfortably with hospice services within 25 days of referral.

He experienced multiple symptoms at EOL including dyspnea, anxiety, generalized edema, pressure ulcers, pain, and delirium. His dyspnea was secondary to heart failure, poor ventilation due to morbid obesity, anxiety, and bronchospasm. The management of dyspnea included the use of bronchodilators, oral morphine, and lorazepam. His edema required administration of loop diuretics. He reported generalized severe musculoskeletal and neuropathic pain, which was controlled with oral morphine and valproic acid, a prior active medication. During the last few days of life, he developed terminal agitation and delirium, which were successfully managed with subcutaneous haloperidol.

Discussion

We describe the health trajectory of an older adult with morbid obesity and multiple other comorbidities during his last year of life. Below, we discuss appropriate timing and role of palliation and hospice care in caring for these types of patients.

The World Health Organization defines palliative care as follows:

> "An approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."[9]

While palliative care and hospice share the same principles of holistic patient care and impeccable symptom control, in the United States patients can be enrolled in Medicare hospice when their predicted life expectancy is 6 months or less with a terminal diagnosis.[10]

Several studies have addressed the benefits of palliative care in LTC settings. The use of palliative and hospice care in nursing homes (NHs) is associated with better pain and symptom management, optimal medication use, reduced hospitalization, and less aggressive care near death, as well as improved family satisfaction with care.[11-16]

There is a paucity of literature addressing the benefits of hospice and palliative care in patients with morbid obesity. The role of palliative care in adults with obesity was first introduced in 2009.[17] It has been suggested that a subset of obesity termed "moribund obesity" would benefit from a palliative care approach when pharmacologic, nonpharmacologic, interventional, or surgical procedures are no longer effective to cure or control obesity and the goals of care become physical, psychological, social, and spiritual comfort only.[17]

The palliative care needs of older adults with morbid obesity are complex and challenging due to their unique pathophysiology.[18] Problems commonly experienced by these patients include dyspnea, pain, foot ulcers or infections, pressure ulcers, limb ischemia, depression, anxiety, and social isolation.[19–25] Most patients with class II and class III obesity lack effective caregivers and depend on mechanical lift devices when approaching EOL. They often require care away from home (eg, acute care hospital, subacute rehabilitation, or LTC facility). This could explain challenges in timely referral to hospice care. Educating palliative care teams across all settings about the need for timely initiation of palliation in older adults with morbid obesity would promote high-quality EOL care for these patients.

Despite having poor health care outcomes and high mortality rates, patients with morbid obesity underutilize hospice and palliative care. A recent study examined the association between increasing BMI and hospice utilization, in-home death, and Medicare expenditures in the last 6 months of life in a large sample of older Americans.[7] Researchers found that increased BMI was independently associated with decreased hospice enrollment, decreased duration of hospice services, decreased probability of in-home death, and increased Medicare expenditures in the last 6 months of life.[7] The patient illustrated in this case had a hospice length of stay (LOS) of 25 days, which is significantly lower than the average 71 days for all Medicare patients in hospice.[26] There has been a steady increase in hospice utilization in United States over the last decade for a number of noncancer diagnoses such as cardiovascular and neurologic conditions; however, hospice LOS has not changed significantly.[8] This reinforces the need of better and earlier detection of hospice eligibility for patients with multiple diseases, including obesity.

Several factors may contribute to the low hospice utilization rate among older patients with morbid obesity. First, health care providers, patients, and families may lack knowledge about the benefits of hospice and palliative care. Second, it is difficult for clinicians to predict survival rates for these patients and to determine when to initiate palliative care and hospice services. Engaging in EOL care conversations with older adults with obesity and their caregivers is challenging if they are relatively younger, do not appear especially frail, and are without a single terminal condition. Third, there are no specific prognostic assessment tools for morbid obesity. Patients with morbid obesity often have significant functional limitations secondary to obesity and associated comorbidities.[27] Prognostic assessment tools based solely on functional status may not be the best scales to predict mortality in this population. Despite the evidence that specific disease states such as CHF, malnutrition, and weight loss with sarcopenia are associated with higher mortality rates among patients with class III obesity, other prognostic indicators for class III obesity are lacking.[28-30] Commonly, patients with morbid obesity have a complex and unpredictable EOL trajectory due to catastrophic cardiovascular events, unpredictable respiratory compromise, varying degrees of renal impairment, and poor surgical candidacy. This highlights the importance of identifying prognostic indicators for this population.

Since individuals with obesity and other advancing illness have functional impairments years before death, tools solely relying on function may not be the best indicators of survival. Other variables including malnutrition, weight loss, sarcopenia, frequent hospitalizations, and failed rehabilitation trials should be taken into consideration when establishing more reliable prognostic tools for these patients.

LTC facilities are not prepared to provide care to these patients. In addition to high symptom burden and need for psychosocial support, there are specific challenges unique to the care of older adults with morbid obesity in LTC settings.[31,32] A study addressing NH perspectives on the admission of patients with morbid obesity identified that lack of staff and bariatric equipment in NHs negatively impacted the transition of these patients from hospitals to NHs.[33] Also necessary are specialty trained staff, increased staffing, and nursing preparedness and education in light of the high level of nursing care required to ensure optimal mobility, skin care, and incontinence.

LTC facilities must better prepare themselves to care for the residents with obesity at the EOL. Preparation begins with organizational mobilization of resources to have appropriate specialized equipment and physical environmental modifications. These include wider doorways to improve patient mobility and, if necessary, evacuation, as well as larger rooms and bathrooms. Specialized equipment may include bariatric beds, mechanical lifts, bariatric wheelchairs, wider walkers, and larger therapy tables. EOL care requires planning for adequate staff allocation and appropriately trained staff to address the specific physical, psychosocial, and spiritual needs of the patient with obesity and the family. Education of staff on communication with patients and families at EOL is essential for optimal care. In addition, implementation of individualized care plans addressing the unique EOL care needs of patients with morbid obesity should include pain management, symptom control, mobility, skin care, and incontinence.[31,34]

Pain management and symptom control are essential elements of general EOL care. Our patient experienced multiple symptoms, which required the use of several medications for comfort. Opioids are indicated for the management of moderate to severe pain at EOL, and oral administration of morphine sulfate was used to control our patient's pain.[35] Adjuvant drugs (ie, anticonvulsants and antidepressants) are commonly used to treat neuropathic pain. The anticonvulsant gabapentin is widely used for this purpose.[35] Since our patient was having a good response to valproic acid for neuropathic pain, we did not initiate gabapentin. Haloperidol was effective in controlling his delirium. Haloperidol is frequently used in hospice and palliative care settings because of its efficacy and ease of administration.[36]

Conclusion

The EOL trajectory of patients with morbid obesity warrants additional study. Our case illustrates the benefits of palliative and hospice care when caring for an older adult with morbid obesity and multiple comorbidities with accelerated health, functional, and nutritional decline. Early palliative care referrals can promote better symptom management and hospice

utilization for such patients. Studies to better characterize the palliative care needs of patients with morbid obesity and to identify more reliable prognostic indicators for this population are strongly needed. ■

References

1. Campbell AT. The context for government regulation of obesity around the globe: implications for global policy action. *World Med Health Policy.* 2012;4(2):1-48.
2. Finkelstein EA, Khavjou OA, Thompson H, et al. Obesity and severe obesity forecasts through 2030. *Am J Prev Med*. 2012;42(6):563-570.
3. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults—the evidence report. National Institutes of Health. *Obes Res.* 1998;6(suppl 2):51S-209S.
4. Flegal KM, Kit BK, Orpana H, Graubard BI. Association of all-cause mortality with overweight and obesity using standard body mass index categories: a systematic review and meta-analysis. *JAMA*. 2013;309(1):71-82.
5. Kitahara CM, Flint AJ, Berrington de Gonzalez A, et al. Association between class III obesity (BMI of 40-59 kg/m_2) and mortality: a pooled analysis of 20 prospective studies. *PLoS Med*. 2014;11(7):e1001673
6. Fontaine KR, Redden DT, Wang C, Westfall AO, Allison DB. Years of life lost due to obesity. *JAMA*. 2003;289(2):187-193.
7. Harris JA, Byhoff E, Perumalswami CR, Langa KM, Wright AA, Griggs JJ. The relationship of obesity to hospice use and expenditures: a cohort study. *Ann Intern Med*. 2017;166(6):381-389.
8. Medicare Payment Advisory Commission (MedPAC). Report to the Congress: Medicare Payment Policy. MedPAC website. http://medpac.gov/docs/default-source/reports/march-2016-report-to-the-congress-medicare-payment-policy.pdf?sfvrsn=0. Accessed May 20, 2019.
9. World Health Organization (WHO). WHO Definition of Palliative Care. WHO website. http://www.who.int/cancer/palliative/definition/en/. Accessed May 20, 2019.
10. Centers for Medicare & Medicaid Services (CMS). Medicare Hospice Benefits. CMS website. https://www.medicare.gov/Pubs/pdf/02154-Medicare-Hospice-Benefits.PDF. Accessed May 20, 2019.
11. Cimino NM, McPherson ML. Evaluating the impact of palliative or hospice care provided in nursing homes. *J Gerontol Nurs*. 2014;40(10):10-14.
12. Miller SC, Mor V, Wu N, Gozalo P, Lapane K. Does receipt of hospice care in nursing homes improve the management of pain at the end of life? *J Am Geriatr Soc.* 2002;50(3):507-515.
13. Suhrie EM, Hanlon JT, Jaffe EJ, Sevick MA, Ruby CM, Aspinall SL. Impact of a geriatric nursing home palliative care service on unnecessary medication prescribing. *Am J Geriatr Pharmacother.* 2009;7(1):20-25.
14. Gozalo P, Plotzke M, Mor V, Miller SC, Teno JM. Changes in Medicare costs with the growth of hospice care in nursing homes. *N Engl J Med*. 2015;372(19):1823-1831.
15. aer WM, Hanson LC. Families' perception of the added value of hospice in the nursing home. *J Am Geriatr Soc.* 2000;48(8):879-882.
16. Kiely DK, Givens JL, Shaffer ML, Teno JM, Mitchell SL. Hospice use and outcomes in nursing home residents with advanced dementia. *J Am Geriatr Soc.* 2010;58(12):2284-2291.
17. Gupta D. Moribund obesity as a palliative care diagnosis. *J Palliat Med.* 2009;12(6):515-516.
18. Nwosu AC, Raj J, Hugel H. Palliative care and obesity: are we prepared? *J Palliat Med*. 2012;15(1):7-8.
19. Ness SJ, Hickling DF, Bell JJ, Collins PF. The pressures of obesity: the relationship between obesity, malnutrition and pressure injuries in hospital inpatients. *Clin Nutr*. 2018;37(5):1569-1574.
20. Hörchner R, Tuinebreijer WE, Kelder H, van Urk E. Coping behavior and loneliness among obese patients. *Obes Surg*. 2002;12(6):864-868.
21. Collins J, Meng C, Eng A. Psychological impact of severe obesity. *Curr Obes Rep*. 2016;5(4):435-440.
22. Pinzur M, Freeland R, Juknelis D. The association between body mass index and foot disorders in diabetic patients. *Foot Ankle Int*. 2005;26(5):375-377.
23. Sarwer DB, Wadden TA, Fabricatore AN. Psychosocial and behavioral aspects of bariatric surgery. *Obes Res*. 2005;13(4):639-648.
24. Okifuji A, Hare BD. The association between chronic pain and obesity. *J Pain Res*. 2015;(8):399-408.
25. Zammit C, Liddicoat H, Moonsie I, Makker H. Obesity and respiratory diseases. *Int J Gen Med*. 2010;(3):335-343.
26. National Hospice and Palliative Care Organization (NHPCO). NHPCO website. https://www.nhpco.org/sites/default/files/public/Statistics_Research/2017_Facts_Figures.pdf. Accessed May 20, 2019.
27. Samper-Ternent R, Al Snih S. Obesity in older adults: epidemiology and implications for disability and disease. *Rev Clin Gerontol*. 2012;22(1):10-34.
28. Qin W, Liu F, Wan C. A U-shaped association of body mass index and all-cause mortality in heart failure patients: a dose-response meta-analysis of prospective cohort studies. *Cardiovasc Ther*. 2017;35(2):1-8.
29. Robinson MK, Mogensen KM, Casey JD, et al. The relationship among obesity, nutritional status, and mortality in the critically ill. *Crit Care Med*. 2015;43(1):87-100.
30. Hamer M, O'Donovan G. Sarcopenic obesity, weight loss, and mortality: the English Longitudinal Study of Ageing. *Am J Clin Nutr*. 2017;106(1):125-129.
31. Bradway C, Felix HC, Whitfield T, Li X. Barriers in transitioning patients with severe obesity from hospitals to nursing homes. *West J Nurs Res*. 2017;39(8):1151-1168.
32. Porter Starr KN, McDonald SR, Weidner JA, Bales CW. Challenges in the management of geriatric obesity in high risk populations. *Nutrients*. 2016;8(5):1-16.
33. Felix HC, Bradway C, Ali MM, Li X. Nursing home perspectives on the admission of morbidly obese patients from hospitals to nursing homes. *J Appl Gerontol*. 2016;35(3):286-302.
34. Harris JA, Castle NG. Obesity and nursing home care in the United States: a systematic review. *Gerontologist*. 2019;59(3):e196-e206.
35. Prommer E, Ficek B. Management of pain in the elderly at the end of life. *Drugs Aging*. 2012;29(4):285-305.
36. Bush SH, Kanji S, Pereira JL, et al. Treating an established episode of delirium in palliative care: expert opinion and review of the current evidence base with recommendations for future development. *J Pain Symptom Manage*. 2014;48(2):231-248.