Racial-ethnic disparities in the quality of end-of-life care among lung cancer patients

10 May 2018

Significant disparities in the quality of end-of-life lung cancer care were found among racial-ethnic minorities, with higher odds of experiencing potentially preventable medical encounters during end-of-life as compared with non-Hispanic whites.

Lung cancer is the leading cause of cancer-related deaths in the world today. Despite advances in lung cancer screening programs as well as technology limitations that result in more than 60% of patients with lung cancer being diagnosed in later stages (III-IV). Therefore, survival is still very poor, with only 18% of these patients surviving beyond 5 years. Given the high mortality of lung cancer, end-of-life care is crucial for improving the quality of life in advanced stage lung cancer patients. Lung cancer mortality and end-of-life cancer care burden is higher among minorities due to their higher lung cancer risk, diagnosis at later stages, and higher odds of receiving inappropriate treatment strategies. In addition, minorities often receive poor quality and more aggressive care near death, in the form of care being administered in emergency rooms (ER), intensive care units (ICU), and inpatient facilities. Minorities are also less likely to receive hospice care during end-of-life. Given these disparities, it is important to understand the effect of race-ethnicity on the type and quality of end-of-life care for all lung cancer patients and to develop guidelines to standardize end-of-life care.

A group of investigators led by researchers from The University of Texas Health Science Center at Houston School of Public Health conducted a retrospective analysis to examine racial-ethnic disparities in the quality of lung cancer end-of-life care. The study used Surveillance Epidemiology and End Result (SEER) data containing newly diagnosed lung cancer patients between 1992 and 2011 linked to Medicare claims from 1991 to 2013. Patients 66 years and older who were diagnosed with stage I-IV lung cancer, and who died on or before December 31, 2013, were included in the study. Patients were divided and analyzed as two separate cohorts, non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC). Poor quality of care was measured using three themes: 1) potentially preventable medical encounters (such as ER, ICU and inpatient stays, and deaths in acute care settings), 2) delayed hospice referral, and 3) aggressive chemotherapy during end-of-life. Logistic regression analyses were performed to estimate racial-ethnic disparities in the adjusted odds of receiving poor quality end-of-life care.

The results of the study were published in the Journal of Thoracic Oncology, the official journal of the International Association for the Study of Lung Cancer (IASLC). The study identified 154,498 NSCLC patients and 27,834 SCLC patients who died on or before December 31, 2013. Eighty-four percent of the NSCLC and 88% of the SCLC patients were non-Hispanic (NH) white. Among patients surviving less than 1 month after diagnosis, statistically significant racial-ethnic differences in poor quality end-of-life care were minimal. However, among patients surviving 1 to 7 months after diagnosis, NH blacks and Hispanics had a higher proportion of preventable medical encounters in the last month of life as compared to NH whites. Hospice care initiation during the last 3 days of life was similar among all race-ethnicities surviving 1 to 7 months, with marginally lower rates of delayed hospice referral among NH blacks with NSCLC. Aggressive chemotherapy in the last month of life was less common among NH blacks as compared to NH whites, however, a higher proportion of NH blacks and Hispanics received overall aggressive care near end-of-life. The racial-ethnic differences in quality of end-of-life care for patients surviving more than 7 months after diagnosis were similar to the differences in patients surviving 1 to 7 months.

The authors comment that, "This is the first study that uses two decades of nationally representative SEER-Medicare data to examine racial-ethnic
disparities in lung cancer end-of-life care. Our study found that aggressive end-of-life care management was increasing over time among lung cancer patients, with increase in the rates of potentially preventable medical encounters, delayed hospice referral, and aggressive chemotherapy provision during end-of-life. Our study also found considerable racial-ethnic disparities in end-of-life care quality. In particular, our study found that the racial-ethnic minorities (NH blacks and Hispanics) had higher odds of experiencing potentially preventable medical encounters in the last month of life as compared with NH whites. Notably, NH blacks had 20 to 40% higher odds of having ER visits, hospital stays, ICU visits, death in an acute care setting, and overall provision of aggressive care as compared with NH whites. Nevertheless, the odds of delayed hospice referral or aggressive chemotherapy provision were lower in NH blacks as compared with NH whites. Our findings may indicate continued lack of access and care disparity among the minorities during the earlier phases of cancer care, which might precipitate potentially preventable utilizations during end-of-life. These findings indicate the need to examine the access of minority populations to appropriately trained providers during all phases of cancer care and their geographic access to hospice care. In addition, identifying patient-level reasons for racial-ethnic disparities will help develop educational and patient navigational interventions to reduce access barriers and facilitate informed patient-level decision-making during end-of-life.


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