Poor Adherence to Guidelines for Management of COPD Exacerbations

Lindenauer PK, Pekow P, Gao S, et al. Quality of care for patients hospitalized for acute exacerbations of chronic obstructive pulmonary disease. Ann Intern Med 2006;144:894–903.

Study Overview

Objective. To evaluate the quality of care provided to patients hospitalized for acute exacerbations of chronic obstructive pulmonary disease (COPD) and to determine if patient or hospital characteristics influence treatment.

Design. Retrospective cohort study.

Setting and participants. Administrative data were analyzed for 69,820 patients (aged ≥ 40 years) who were hospitalized for COPD exacerbations in 360 hospitals in the United States and discharged between 1 January and 21 December 2001.

Main outcome measure. Adherence to national guideline recommendations for COPD diagnosis and treatment. Patients who received chest radiography, supplemental oxygen, bronchodilator therapy, systemic steroids, and antibiotics were classified as having received recommended care. Patients who received any sputum examination, acute spirometry, methylxanthine bronchodilators, mucolytic agents, or chest physiotherapy were classified as having received nonrecommended care. Patients who received all of the recommended care processes but none of the nonrecommended care processes were classified as having received ideal care.

Main results. Of 69,820 patients, 66,276 (95%) received chest radiography, 63,715 (91%) received supplemental oxygen, 67,515 (97%) received bronchodilators, 59,240 (85%) received systemic steroids, and 59,053 (85%) received antibiotics. In total, 45,800 (66%) received all of the recommended care processes. However, 31,519 patients (45%) received at least 1 element of nonrecommended care: 16,607 (24%) were treated with methylxanthine bronchodilators, 10,051 (14%) had sputum testing, 8354 (12%) underwent acute spirometry, 4299 (6%) had chest physiotherapy, and 1409 (2%) were treated with mucolytic medications. Overall, only 22,929 (33%) received ideal care. Older patients and women were more likely to receive ideal care. Individual hospital performance varied, and neither teaching status nor case volume was associated with better performance.

Conclusion. Two thirds of patients hospitalized for acute exacerbations of COPD did not receive ideal care. Provider education on COPD care guidelines appears to be warranted.

Commentary

In 2000, COPD caused 119,000 deaths, 726,000 hospitalizations, 1.5 million hospital emergency department visits, and 8 million outpatient physician visits in the United States [1]. COPD is the fourth leading cause of death in the United States and accounts for more than $18 billion in annual health care costs [1,2]. These statistics have drawn significant attention from physicians and scrutiny from policy makers focusing on quality of care, prompting the American College of Physicians (ACP) and the American College of Chest Physicians (ACCP) to collaborate in developing guidelines with explicit criteria for appropriate management [3]. However, general information about the quality of COPD care and whether similar disparities that influence care delivery in other disease conditions also affect care of COPD patients is limited.

Lidenauer and colleagues used administrative data from 360 predominantly urban, small- to medium-sized, nonteaching hospitals to establish a retrospective cohort for analysis. Using the ACP/ACCP guidelines, the authors defined care received by patients admitted for COPD exacerbations as being "ideal," "recommended," or "nonrecommended." Of nearly 70,000 patients hospitalized for a COPD exacerbation, the authors found widespread opportunities for improvement. Overall, only 66% received recommended care and only 33% received ideal care. Hospital-adjusted analysis of patient characteristics demonstrated that elderly patients and women tended to receive ideal care, but ethnicity did not significantly contribute to care disparity. Further, adherence to individual composite measures varied significantly among hospitals, and, surprisingly, characteristics such as COPD case volume or teaching status were not associated with higher quality of care. Despite the inherent limitations of using administrative data, this study effectively recognized the glaring chasm between what is best practice for COPD exacerbation management and what is currently being received by patients.

Applications for Clinical Practice

Clinicians should familiarize themselves with and seek to apply current best evidence available for care of patients hospitalized with COPD exacerbations. Fortunately, this evidence is readily available is the form of recently developed guidelines.

—Review by Mark S. Horng, MD

References

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