Bronchiolitis Obliterans Organizing Pneumonia: A Late Complication of Stem Cell Transplantation

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Improvements in antibiotic and antifungal therapy, immunosuppressive medications, and hematopoietic stem cell collection have made survival beyond 100 days common for patients undergoing allogeneic hematopoietic stem cell transplantation (HSCT). Because of longer disease-free survival, allogeneic HSCT recipients may encounter a wider variety of late or chronic complications, including chronic graft-versus-host disease (cGVHD), graft failure or marrow dysfunction, and pulmonary, integumentary, gastrointestinal, and ocular complications.

Pulmonary complications are a significant source of nonrelapse morbidity and mortality in early and late phases of stem cell transplantation. Common pulmonary problems after HSCT include cytomegalovirus (CMV) pneumonia, bacterial pneumonias, and toxicity from drug regimens. A specific pulmonary syndrome that requires early recognition is bronchiolitis obliterans organizing pneumonia (BOOP). “Organizing” refers to unresolved pneumonia in which the alveolar exudate persists and forms fibrous tissue in the alveoli. Patients with BOOP present with common and vague symptoms that can be associated with other pulmonary complications. Undiagnosed, it can progress to respiratory failure. However, initiation of appropriate treatment may result in almost complete recovery over time. This article describes BOOP, a late complication associated with allogeneic stem cell transplantation, and reviews its symptoms, diagnosis, and treatment. The role of community oncology nurses also is discussed.

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