

Over the last decade, ground glass opacities (GGO) have become a topic of rapidly increasing interest, due to both increased reported incidence as well as greater understanding of their natural history. GGOs are defined as areas of intensified homogenous density on cross-sectional imaging through which underlying bronchial and vascular markings remain visible. They have historically represented somewhat of a diagnostic challenge, given the wide range of potential underlying etiologies, spanning from infection and inflammation to premalignancy and invasive adenocarcinoma.

The incidence of GGO reporting has grown, believed to be due to both the improvement in imaging techniques with higher resolution and thinner sliced scans, along with the concurrent implementation of lung cancer screening. As these lesions are being identified with greater frequency, we have also strived to have a better understanding of the prognostic factors, natural history, high-risk features, and time to progression from pre-malignant to malignant processes.

However, a number of challenges still persist. Reliable predictors of behavior are in need, and consensus has not yet been reached on best practices for treating adenocarcinomas with ground glass components. These tumors tend to have a more indolent nature, with excellent chance for cure, yet are known to also have the capacity for nodal involvement and more aggressive behaviors. Multiple modalities of therapy, spanning systemic treatments, resection, and ablative strategies have been proposed in our search for the optimal treatment approach.

This book aims to provide a comprehensive overview of GGOs, with insight into their characteristics and the tools and resources that we have to give patients reasonable expectations for their risk of disease and potentially needed interventions. The book is divided into four sections, outlining prognostic features, diagnostic advances, treatment options, and GGO-related risks. The readers should gain understanding in the variety of tools that we have at our disposal to both diagnose and prognosticate these lesions, as well as the interventions available to manage concerning, high-risk lesions.

I believe that the readers will gain valuable insight upon reading the perspectives of expert contributors from a global community of investigators and thought leaders in this realm. Through better understanding of these lesions, their course, and their risk, we can provide better communication and more clear expectations to our patients, while ensuring that we optimize benefit while minimizing risk in their care. I hope that the readers find the following collection to supplement their knowledge of GGOs while inspiring future efforts and collaborations.



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