

## Lung volume reduction—a great chance for emphysema patients!

Hyperinflation is the key pathophysiological mechanism of pulmonary emphysema leading to dyspnea and worsening quality of life (1-3). Therefore, lung volume reduction has become an integral part of holistic patient management after all conservative possibilities such as smoking cessation, pulmonary rehabilitation, vaccination and pharmacological therapy have been established according to international recommendations (4,5). Since 2017 both, lung volume reduction surgery (LVRS) and bronchoscopic lung volume reduction (BLVR) using valves or coils are recommended by the Global Initiative for Obstructive Lung Disease (GOLD) (5). In addition, more BLVR procedures by thermic and chemical means have become available within clinical studies (6,7). When patients are selected appropriately, current evidence on surgical and bronchoscopic approaches demonstrated effectiveness regarding improvement of pulmonary function, 6-minute walk distance (6MWD) and quality of life with an acceptable safety profile (8,9). However, there are still many areas of uncertainty regarding patient selection for individual LVR procedures and the question, which treatment option is optimal for which patient and emphysema pattern. Indeed, a recent review article by Shah et al. is providing an excellent overview on the currently available techniques (10), but it was not without criticism due to its unbalanced view on LVRS (11). Eventually, all prospective evidences in this field are single arm observational studies or studies randomizing a LVR procedure against standard of care. Most of these studies are not investigator initiated, and there is no direct in-between comparison of any LVR procedure available.

The present special issue aims to provide a unique platform for leading experts in the field of LVR to summarize the current evidence and future directions from different views. This issue cannot give a concluding answer to the key question mentioned above. Although there are studies under way, which compare LVRS with BLVR in randomized trials, it is uncertain if there will be a simple answer at all. Eventually, pulmonary emphysema is a multifaceted disease with different anatomical patterns, co-morbidities and preferences from the patient's point of view. Thus, emphysema treatment will remain subject to a multidisciplinary, but highly specialized team approach to find the individual appropriate therapy concept for each patient. The present special issue may assist the reader in finding the optimal approach. In this spirit, we want to thank all authors cordially for their precious contribution.

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