

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/clinicians-roundtable/evaluating-high-vs-low-dose-corticosteroids-in-acute-ipf-exacerbations/35655/>

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Evaluating High- vs. Low-Dose Corticosteroids in Acute IPF Exacerbations

Announcer:

You're listening to *Clinician's Roundtable* on ReachMD. On this episode, Dr. Divya Shankar will discuss her research on corticosteroid dosing in patients with acute exacerbations of idiopathic pulmonary fibrosis. Dr. Shankar is an Assistant Professor of Medicine at Boston University Chobanian and Avedisian School of Medicine as well as a Pulmonary and Critical Care Physician at Boston Medical Center, and she spoke on this topic at the 2025 American Thoracic Society International Conference. Let's hear from her now.

Dr. Shankar:

Investigating the impact of pulse versus lower dose of corticosteroids in acute exacerbations of idiopathic pulmonary fibrosis, or IPF, grew out of experiences I had as a pulmonary and critical care fellow caring for patients with these exacerbations. I was really impacted because there often was little we could do beyond supportive care for patients, and the main option for medical treatment was corticosteroids, and this was based on the rationale that there is an increased inflammatory response in acute exacerbations of IPF. But I noticed that people's practices around steroid use varied a lot, and that's probably because, while the 2011 American Thoracic Society guidelines on IPF make a weak recommendation for steroid use based on anecdotal reports of benefit, they don't make recommendations on the best dose to use. And in the literature, there is controversy on dosing choices, and there's one camp that believes that high doses or pulse doses of steroids provide benefit over lower doses because these high doses exert non-genomic effects on cells where there's rapid signal transduction and you can see cellular response in seconds to minutes, whereas other people believe that these high doses of steroids and increased immunosuppression might be harmful because these patients with IPF already have a dysregulated lung microbiome and that giving high-dose immunosuppression could worsen that.

In earlier studies, our research group had looked at practice patterns around acute exacerbations of IPF in nationally representative claims data and found that, while steroid use is ubiquitous with 80 to 90 percent of patients receiving steroids, the dosing practices actually varied a lot between hospitals, with some hospitals tending to use higher doses and other hospital practice tending to use lower doses. And so, for this reason, we sought to leverage this variation in a hospital's propensity to administer pulse dose steroids to compare the effectiveness of high versus low-dose steroids for acute exacerbations.

We used the PINC AI healthcare database, which is an enhanced claims-based data set that has information on about 25 percent of hospital admissions across the US, and we identified patients with acute exacerbations of IPF based on their ICD diagnosis coding. And we included patients who received methylprednisolone, which is one of the most commonly used steroids for IPF on days one or two of admission, and compared those receiving high doses—or greater than 250 milligrams—of methylprednisolone to low doses using an instrumental variable design, which is just an analytic tool that can help address unmeasured confounding in observational data. And so we examined outcomes of in-hospital death or discharge to hospice and discharge home without the need for ventilatory support, and as a secondary prespecified subgroup analysis, we looked at whether outcomes differ by unit of admission if interaction testing is significant.

And so in terms of our results, we identified 3,049 patients with acute exacerbations of IPF at 177 hospitals. Patient demographic and baseline characteristics were well balanced between the groups that received high dose versus low dose, and we found that there was no overall difference in both the outcome of death and discharge to hospice or the outcome of discharge home without ventilatory support. However, what was surprising in our findings was that, in the subgroup of patients who were admitted to the intensive care or intermediate care unit, we observed a higher risk difference of death if receiving pulse dose steroids, but it's unclear whether this reflects harm from the steroids or that these patients were just sicker to start off with.

Our findings can make people think about how to approach corticosteroid dosing, although I'm not sure that practice should be changed just based on these results. While I think it is premature to make definitive practice changes based off of our data or any of the available data, the heterogeneity of our results in different subgroups really highlights the need for a prospective randomized trial addressing the question of how to best dose steroids in acute exacerbations of IPF and whether different groups of patients, depending on severity of illness, may respond differently to different doses.

Announcer:

That was Dr. Divya Shankar discussing corticosteroid dosing in patients with acute exacerbations of idiopathic pulmonary fibrosis. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!