Therapeutic Outcomes of Infliximab in Sarcoidosis: A Retrospective Review

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Abstract

Introduction: Infliximab (IFX) has been proposed as an effective treatment in sarcoidosis. Data from other immune mediated inflammatory diseases suggest that smoking and obesity negatively influence the effectiveness of IFX. Are these variables and other clinical parameters predictive of treatment response? Methods: 81 subjects who received IFX for at least 6 months were identified and divided into lung and non-lung groups. For lung subjects, we used %pred FVC, %pred DLCO, and change in steroid dose as measures of effectiveness. PFTs and steroid doses were recorded at four different time intervals. We determined a priori to perform a subgroup analysis of the lung subjects based on the presence of fibrotic vs. non-fibrotic CXR. For non-lung subjects, we graded the clinical response to treatment as complete, partial, and poor, in addition to the change in steroid dose. Results: For 29 lung subjects, the %pred FVC at 6 months was significantly higher than at initiation (66 ± 16 vs. 70 ± 15%, p=0.004, with an effect higher in the fibrotic group (57 ± 13 vs. 61 ± 10%, p=0.024). The %pred DLCO did not reach significance (56 ± 18 vs. 55 ± 22% at 6 months, p=0.31). Steroid dose was significantly less at 6 months than at initiation in all subjects (18 ± 18 vs. 7 ± 9 mg/d, p<0.001); non-lung subjects (20 ± 19 vs. 8 ± 9 mg/d, p<0.001 and 8 ± 9 at 6 months vs. 5 ± 6 mg/d at last follow-up, p=0.003); lung subjects (10 ± 11 vs. 4 ± 5 mg/d at 6 months, p<0.001), with the effect more prominent in the fibrotic group (13 ± 11 vs. 4 ± 5 mg/d, p=0.003) than non-fibrotic group (p=0.15). For non-lung subjects, 39 subjects had a complete or partial response, and 22 had poor organ response. Ocular, neurologic, cutaneous, and multi-organ disease were more likely to respond to IFX. In non-lung subjects, minimal smoking (py < 10) responded better to IFX than those with py >10, p=0.004. This was not seen in the lung only group. There was no effect of obesity on any of the measured outcomes. The data at the last follow-up [median 38 months (25th, 75th percentile 25, 58 months)
suggest that the effects of IFX are durable with no significant attenuation of PFTs or extrapulmonary organ responses. Conclusion: This retrospective study accords with prior trials, suggesting that IFX is effective for pulmonary and extrapulmonary sarcoidosis, including subjects with fibrosis on CXR. The association of smoking and decreased response to IFX in extrapulmonary sarcoidosis is a novel finding. No effect of BMI on the outcomes was found. Data regarding the interval between IFX infusions suggests that IFX can be given at 4/6/8 week intervals. These data support the effectiveness of IFX for clinical management of refractory sarcoidosis and suggest that its benefits are sustained over time.