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Background: In the TAKT study, a randomized controlled trial of tocilizumab (TCZ) in patients with refractory Takayasu arteritis (TAK) in Japan, the primary end point of time to relapse after induction of remission with glucocorticoid (GC) treatment showed a trend favoring TCZ over placebo (hazard ratio 0.41 [95.41% confidence interval, 0.15–1.10; p=0.0596]), but the double-blind period was too short for imaging evaluation.

Objectives: To independently evaluate vascular imaging in a post hoc analysis of radiographs from the TAKT study.

Methods: Computed tomography images from patients in the TAKT study were evaluated by three independent radiologists who were not involved in the original trial. Patients who received TCZ and had computed tomography images available (n=28) were included. Assessments were made in 22 arteries for the change from baseline in wall thickness (primary end point), dilatation/aneurysm, stenosis/occlusion, or wall enhancement for at least 96 weeks after the start of tocilizumab treatment. Patient-level assessments were also conducted.

Results: Among 28 patients who received at least one dose of TCZ and for whom images were available, 86.7% of 22 arteries had improved/stable (no progression) wall thickness at week 96. The proportions of patients with no progression, partially progressed, or newly progressed lesions were 57.1%, 10.7%, and 28.6% for wall thickness, and the proportions without progressed lesions were 92.9% for dilatation/aneurysm and 85.7% for stenosis/occlusion (Figure 1). Patients with newly progressed lesions, reflecting more refractory disease, were receiving glucocorticoid doses that could not be reduced below 0.1 mg/kg/day at week 96.

Conclusion: Approximately 60% of patients with TAK treated with tocilizumab did not experience progression in wall thickness. Few patients experienced progressive dilatation/aneurysm or stenosis/occlusion. Wall thickness progression likely resulted from refractory TAK. Patients who experience this should be monitored regularly by imaging, and additional glucocorticoid or immunosuppressive treatment should be considered to avoid vascular progression.

REFERENCES:

Figure. Evaluation of arteries per patient (n=28)