Background

Certolizumab pegol (CZP) has previously been shown to improve signs and symptoms of rheumatoid arthritis (RA) in a diverse group of patients, including 37.6% who previously used a TNF inhibitor. CZP has also been shown to inhibit radiographic progression.

Objectives

The study, THE EFFECT OF CERTOLIZUMAB PEGOL IN COMBINATION WITH METHOTREXATE ON MRI SYNOVITIS AND BONE EDEMA AND PATIENT REPORTED OUTCOMES AS MEASURED USING AN AUTOMATED VISIT MANAGER SYSTEM IN MODERATE TO SEVERE RA PATIENTS (PICS), evaluated the efficacy of CZP in combination with methotrexate (MTX) in reducing symptoms and signs assessed by non-contrast MRI in patients with moderate to severe RA, who failed at least one non-biologic or biologic DMARD. Value of short-term MRI findings for predicting long-term efficacy of CZP was also assessed.

Methods

In this 2-center open-label study, 20 adult RA pts with DAS > 4.4, on stable dose of MTX, received CZP 400 mg at wk 0, 2, and 4, followed by 200 mg every 2 wks for 52 wks. All patients had bilateral hand and wrist non-contrast MRI using 0.2 T extremity scanner at baseline, 6 wks, 16 wks and 52 wks. Images were scored according to the RAMRIS system and 9-point cartilage loss (CL) scale by a radiologist blinded to visit order. Bilateral hand and foot radiographs were taken at baseline, 16 wks and 52 wks and scored according to the van der Heijde-Sharp system.

Results

16/20 pts completed 52 wks. No serious adverse events were reported. DAS28 and RAPID scores were significantly reduced at all time points compared with baseline (Wilcoxon; p<0.001) (Figure 1). ACR20/50/70 response rates at 16 & 52 wks (with non-completers considered non-responders) were 60/30/15 & 65/40/20%, respectively. At wk 12 and 52, 69% at wk 52 achieved moderate or good EULAR response. Only one pt achieved low disease activity at wk 52. 80% of patients had a DAS28 improvement of ≥1.2 by wk 12. Of these, 25% did not achieve EULAR response at wk 52.

Table 1: Baseline Characteristics

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<tr>
<th>Parameter</th>
<th>Mean ± SD (n)</th>
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<tr>
<td>DAS28</td>
<td>4.9 ± 2.1 (20)</td>
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<tr>
<td>CRP</td>
<td>2.4 ± 2.1 (20)</td>
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52-wk EULAR responders had significantly greater improvement in the OST scores at 16 wks than non-responders (p=0.043). Changes in SYM, ERO or CL scores did not differ significantly between the two groups (Figure 4). All pts who had improved OST scores by wk 16, were clinical responders at wks 12 and 52. Clinical responders at wk 12 had 73% probability of EULAR response at wk 52, but if they also had OST improvement at wk 16, the probability was 100% (PPV=1.0). Conversely, if OST worsened, the probability EURAP response at wk 52 was only 33% (PPV = 0.66).

Conclusions

In this open-label study of active RA patients who failed at least one DMARD, usually a biologic, improvement of osteitis on MRI predicted long-term clinical response to CZP. This finding may be useful for guiding therapeutic choices in patients with RA who have previously used a biologic. Larger studies should be done to confirm these findings.

Funding and study drug were provided by UCB.

References