Inflectra (infliximab biosimilar) for psoriatic arthritis

SUMMARY

Inflectra (infliximab biosimilar; CT-P13; Remsima) is intended to be used as therapy for the treatment of active and progressive psoriatic arthritis (PsA) in adults who have an inadequate response to disease-modifying anti-rheumatic drugs (DMARDs). Inflectra is a chimeric monoclonal antibody of the IgG1K subclass that specifically targets and irreversibly binds to tumour necrosis factor (TNF)-α on cell membranes and in blood. Infliximab (Remicade) is already licensed for treatment in this patient group.

It is estimated that there are around 60,300 people in England with PsA. It has an equal gender distribution and characteristically develops in people aged 35-55 years. An estimated 5-10% of people with psoriasis and 25-40% of people with PsA have severe arthritis with progressive joint lesions. PsA can significantly affect the ability to work and to carry out daily tasks, and can have a substantial impact on quality of life. Several comorbid conditions are associated with PsA, including psychological and cardiovascular diseases. Approximately 2.4% of people with PsA are potentially eligible to receive treatment with biologics.

Treatment options for PsA include non-biologic therapies, such as analgesics, corticosteroids, non-steroidal anti-inflammatory drugs (NSAIDs), and conventional disease-modifying anti-rheumatic drugs (DMARDs) and biologic therapies, such as TNF-α inhibitors. There are currently no clinical trials of Inflectra for this patient population.
TARGET GROUP

- Psoriatic arthritis (PsA): active and progressive - adults with an inadequate response to disease-modifying anti-rheumatic drugs (DMARDs).

TECHNOLOGY

DESCRIPTION

Inflectra (infliximab biosimilar; CT-P13; Remsima) is a chimeric monoclonal antibody of the IgG1K subclass that specifically targets and irreversibly binds to tumour necrosis factor (TNF)-α on cell membranes and in blood. Anti-TNF-α treatment also inhibits the production of other pro-inflammatory cytokines, such as interleukin (IL) -1, IL-6, IL-8, and granulocyte-macrophage colony-stimulating factor. Inflectra is administered by intravenous (IV) infusion at 5mg/kg at weeks 0, 2 and 6, and then every 8 weeks thereafter.

Inflectra is in phase III clinical trials for rheumatoid arthritis and in phase I clinical trials for ankylosing spondylitis.

INNOVATION and/or ADVANTAGES

Infliximab (Remicade) is licensed for rheumatoid arthritis, Crohn’s disease, ulcerative colitis, ankylosing spondylitis, PsA and psoriasis. If licensed, Inflectra will provide an alternative treatment option for this patient group when infliximab therapy is indicated.

DEVELOPER

Hospira UK Ltd.

AVAILABILITY, LAUNCH OR MARKETING

In phase III clinical trials.

PATIENT GROUP

BACKGROUND

PsA is a chronic inflammatory joint disease associated with psoriasis of the skin or nails. The diagnosis of PsA tends to occur within 10 years of diagnosis with psoriasis and leads to stiffness, pain, swelling and tenderness of the joints and surrounding ligaments and tendons. The most commonly affected areas include the small joints of the hands and feet, but it may also involve other larger joints such as the hips, knees and spine. PsA has a chronic relapsing course, characterised by flares and remissions, which may be life-long. Although the cause of psoriasis and its associated arthritis is not fully understood, evidence suggests that it is a T-cell mediated disease, most likely auto-immune in origin, with a strong genetic component.
This topic is relevant to:

**CLINICAL NEED and BURDEN OF DISEASE**

The prevalence of psoriasis in the UK population is estimated at between 1.5-3%\(^1\). The prevalence of inflammatory arthritis in people with psoriasis is estimated at ≤30%\(^5\), with a prevalence of 50% recorded in some population studies\(^6\). It is estimated that there are 60,353 people in England with PsA\(^7\); however experts suggest that the true population prevalence of PsA maybe up to 1%\(^8\). An estimated 5-10% of people with psoriasis and 25-40% of people with PsA have severe arthritis with progressive joint lesions\(^9\). PsA has an equal gender distribution and characteristically develops in those aged 35-55 years. A review of the experience of PsA patients treated with DMARDs reported that over 70% of patients discontinued due to a lack of efficacy or adverse events (from 35% with methotrexate to 94% with hydroxychloroquine)\(^10\). Approximately 2.4% of people with PsA are potentially eligible to receive treatment with biologics\(^7\); however approximately 25% of such patients discontinue their anti-TNF treatment within the first year (9.5% discontinue due to inefficacy and 10.0% due to adverse events)\(^11\), and 30% of patients do not respond to anti-TNF treatment\(^8\).

PsA can significantly affect the ability to work and to carry out daily tasks, and can have a substantial impact on quality of life; work disability and unemployment are high in those with PsA\(^5,12\). Health-related quality of life measures and physical function are similar to rheumatoid arthritis\(^13\). Direct health costs for PsA are considerable and correlate with impaired physical function\(^14\). Several comorbid conditions are also associated with PsA, including psychological and cardiovascular diseases, and their management has a major impact on the economic burden associated with PsA\(^5\). People with PsA have a 60% higher risk of mortality\(^5\) and their life expectancy is estimated to be reduced by approximately 3 years\(^15\). In 2011-12, there were 6,805 hospital admissions for PsA (ICD10 L40.5) in England, resulting in 6,948 finished consultant episodes and 4,582 bed days\(^16\).

**PATIENT PATHWAY**

**RELEVANT GUIDANCE**

**NICE Guidance**

- NICE technology appraisal in development. Ustekinumab for the treatment of active and progressive psoriatic arthritis (ID6070). Expected May 2014\(^17\).
- NICE technology appraisal. Golimumab for the treatment of psoriatic arthritis (TA220). April 2011\(^18\).
- NICE technology appraisal. Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis (TA199). August 2010\(^1\).

**Other Guidance**

- European League Against Rheumatism. European League Against Rheumatism recommendations for the management of psoriatic arthritis with pharmacological therapies. 2011\(^19\).
EXISTING COMPARATORS and TREATMENTS

The clinical management of PsA aims to suppress joint, tendon and entheseal inflammation, and reduce functional limitations and joint damage. Treatments include a range of physical therapy and pharmacological treatments. Guidelines recommend treatment with 1 or 2 conventional DMARDs before proceeding to TNF inhibitors.

Treatment options include:

Non-biologic therapies
- Analgesics.
- Corticosteroids – limited role in PsA.
- Non-steroidal anti-inflammatory drugs (NSAIDs).
- DMARDs, including methotrexate (MTX), sulfasalazine, leflunomide, gold salts (very rarely used), and anti-malarials (very rarely used). Usually administered within three months of diagnosis to stabilise joint function, either as monotherapy or in combination with biologic agents.

Biologic therapies
- TNF-α inhibitors such as etanercept, infliximab, adalimumab and golimumab.

Efficacy and Safety

There are no clinical trials of Inflectra for this patient population.

Estimated Cost and Impact

Cost

The cost of Inflectra is not yet known. The costs of other selected biological treatments for PsA are summarised below:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Annual cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalimumab (Humira)</td>
<td>40mg SC every 2 weeks</td>
<td>£9,155</td>
</tr>
<tr>
<td>Etanercept (Enbrel)</td>
<td>25mg SC twice weekly, or 50mg once weekly</td>
<td>£9,295</td>
</tr>
<tr>
<td>Infliximab (Remicade)</td>
<td>5mg/kg IV at weeks 0, 2 and 6, then every 8 weeks</td>
<td>£15,106</td>
</tr>
<tr>
<td>Golimumab (Simponi)</td>
<td>50mg SC once monthly.</td>
<td>£9,155</td>
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* Based on an average adult weight of 77.9kg. Assumes wastage.
IMPACT - SPECULATIVE

Impact on Patients and Carers
☐ Reduced mortality/increased length of survival
☐ Reduced symptoms or disability
☐ No impact identified
☐ Other:

Impact on Services
☐ Increased use of existing services
☐ Decreased use of existing services
☐ Need for new services
☐ None identified
☐ Re-organisation of existing services
☐ Other:

Impact on Costs
☐ Increased drug treatment costs
☐ Reduced drug treatment costs
☐ Other reduction in costs:
☐ Other:
☐ Other: uncertain unit cost compared to existing licensed infliximab preparation (Remicade) and other TNFα inhibitors.
☐ None identified
☐ Other increase in costs:

Other Issues
☐ Clinical uncertainty or other research question identified:
☐ None identified

REFERENCES

6 National Institute for Health Research Horizon Scanning Centre. Ustekinumab (Stelara) for psoriatic arthritis with structural joint damage. September 2012. www.hsc.nihr.ac.uk
9 National Institute for Health Research Horizon Scanning Centre. Certolizumab pegol (Cimzia) for psoriatic arthritis – second line. September 2011. www.hsc.nihr.ac.uk