NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Health Technology Appraisal

Ustekinumab for the treatment of moderate to severe psoriasis

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of ustekinumab within its licensed indication for the treatment of moderate to severe psoriasis.

Background

Psoriasis is an inflammatory skin disease that is characterised by an accelerated rate of turnover of the upper layer of the skin (epidermis). Although it is a chronic condition, its course may be unpredictable, with flare-ups and remissions.

Psoriasis is generally graded as mild, moderate or severe. The severity of the condition can be measured using indices such as the Psoriasis Area Severity Index (PASI) and the Dermatology Life Quality Index (DLQI). The most common form of psoriasis is chronic plaque psoriasis (psoriasis vulgaris). This affects 80% of cases and is characterised by well-demarcated, often symmetrically distributed, thickened, red, scaly plaques. Although the plaques can affect any part of the skin, they are typically found on the extensor surfaces of the knees and elbows, and on the scalp.

There are few data on the prevalence and incidence of psoriasis in the UK but estimates suggest that it affects approximately 2% of the population, equating to approximately 1 million people with the condition. Patients with severe disease constitute around 20-30% of all patients with psoriasis. There is a higher incidence in white people than in members of other ethnic groups.

People with severe disease may require a number of hospitalisations each year; the average number of hospital inpatient days per year is around 20 days.

There is no cure for psoriasis but there is a wide range of topical and systemic treatments that can potentially manage the condition. Most treatments reduce severity rather than prevent episodes and the psoriasis has to be treated continually and on a long-term basis.

Mild to moderate psoriasis can be managed with topical treatments, including emollients and occlusive dressings, keratolytics (salicylic acid), coal tar, dithranol, corticosteroids, retinoids and vitamin D analogues. More severe, resistant and/or extensive psoriasis is treated with photo(chemo)therapy such as psoralen and ultraviolet A therapy (PUVA), acitretin (an oral retinoid) and

oral drugs that act on the immune system, such as ciclosporin, methotrexate and hydroxycarbamide. Oral treatments can be given alone or in conjunction with topical therapies.

Several biologic agents (etanercept, efalizumab, infliximab and adalimumab) are licensed for the treatment of moderate to severe plaque psoriasis where systemic therapies such as ciclosporin, methotrexate and PUVA have failed to achieve an adequate response, or are contraindicated or not tolerated. NICE has issued guidance on the use of etanercept and efalizumab (NICE technology appraisal guidance 103) infliximab (NICE technology appraisal guidance134) and adalimumab (NICE technology appraisal guidance 146). The recommendations made by NICE are based on disease severity defined by PASI and DLQI scores.

The technology

Ustekinumab (Janssen-Cilag Ltd.) is a human monoclonal antibody which acts as a cytokine inhibitor through targeting interleukin-12 (IL-12) and interleukin-23 (IL-23). It prevents IL-12 and IL-23 from binding to their receptors on Natural-Killer cells or T-cells. It is administered by sub-cutaneous injection. Ustekinumab currently has no marketing authorisation in the UK. It has been studied in clinical trials in patients with moderate to severe plaque psoriasis.

Intervention(s)	Ustekinumab
Population(s)	Adults with moderate to severe plaque psoriasis who have had an inadequate response to, or who have a contraindication to, or are intolerant to other systemic therapies including ciclosporin, methotrexate and PUVA
Standard comparators	Biologic therapies • adalimumab • efalizumab • etanercept • infliximab Best supportive care

Outcomes	The outcome measures to be considered include: • severity of psoriasis • remission rate • relapse rate • adverse effects of treatment • health-related quality of life.
Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective.
Other considerations	It is anticipated that individuals may also be treated with topical therapies; where the evidence permits any resulting confounding factors will be taken into consideration. Where the evidence allows, sequencing of different drugs and the place of ustekinumab in such a sequence will be considered. If the evidence allows, consideration will be given to the subgroup of people with very severe psoriasis. Guidance will only be issued in accordance with the marketing authorisation.
Related NICE recommendations	Related Technology Appraisals: Technology Appraisal No.103, July 2006, 'Etanercept and efalizumab for the treatment of psoriasis' Technology Appraisal No.134, January 2008, 'Infliximab for the treatment of psoriasis' Technology Appraisal No. 146, June 2008, 'Adalimumab for the treatment of psoriasis' Technology Appraisal No.104, July 2006, 'Etanercept and infliximab for the treatment of psoriatic arthritis' Technology Appraisal No.125, August 2007, 'Adalimumab for the treatment of psoriatic arthritis'