

PSORIASIS

## **COST-EFFECTIVENESS ANALYSIS OF TILDRAKIZUMAB FOR MODERATE TO SEVERE PLAQUE PSORIASIS IN ENGLAND AND WALES**

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**Introduction:** Tildrakizumab is a high-affinity anti-IL23p19 monoclonal antibody for the treatment of adults with moderate to severe plaque psoriasis who are candidates for systemic therapy.

**Objective:** To demonstrate the cost-effectiveness of tildrakizumab in England & Wales versus all currently available biologic therapies.

**Methods:** A treatment sequence Markov model and a lifetime horizon was developed. As part of the treatment sequence patients could receive up to three biologic interventions followed by best supportive care. In the base case analysis, tildrakizumab was included in a sequence alongside ustekinumab and secukinumab and compared with seven alternative sequences made up of a range of biologic therapies with the composition of all sequences informed by national guidelines and clinical input. PASI response was the key outcome measure, taken from a network meta-analysis of all relevant interventions, and used to determine how many patients remained on treatment after the induction period. Treatment acquisition and patient monitoring costs were included and patient quality-adjusted life years (QALYs) were also estimated by PASI response with four PASI health states included (<50, 50-74, 75-89, ≥90). Deterministic and probabilistic sensitivity analyses (PSA) were undertaken to assess the uncertainty of the cost-effectiveness results.

**Results:** The tildrakizumab sequence was the most cost-effective sequence modelled with the majority of comparator sequences dominated. Two of the seven comparator sequences were not dominated but were associated with incremental cost-effectiveness ratios (ICERs) of over £150,000. Very similar results were generated during the PSA. The deterministic sensitivity analysis suggest the outputs of the model are robust with the overall results most sensitive to the PASI response of tildrakizumab and adalimumab plus the discontinuation rate of tildrakizumab and adalimumab.

**Conclusions:** Tildrakizumab is a cost-effective treatment option for moderate to severe plaque psoriasis in England & Wales.