Dupilumab

We **recommend** dupilumab in AE patients who are candidates for systemic treatment.	↑↑	**100%** Evidence and consensus based, see Evidence Report

dupilumab: in licence for ≥ 6 months of age;
age 6 months-6 years: from 5kg <15 kg 200 mg Q4W, 15kg <30 kg 300 mg Q4W
age 6-11: from 15kg <60kg, initially 300 mg s.c. day 1 and 15 followed by 300 mg Q4W, when ≥60 kg, initially 600 mg s.c. day 1 followed by 300 mg Q2W
age 12-17: <60 kg: initially 400 mg s.c. day 1 followed by 200 mg Q2W, when ≥60 kg: initially 600 mg s.c. day 1 followed by 300 mg Q2W
adults: initially 600 mg s.c. day 1 followed by 300 mg Q2W

Certainty of evidence: Network meta-analysis from 2024[1, 2]:

Short term (up to 16 weeks) vs placebo (NMA medications used in clinical practice)

⊕⊕⊕⊕ HIGH for mean difference **EASI** -10.5 (-11.9, -9.2); **POEM** -7.3 (-8, -6.7); **peak pruritus NRS** -2.1 (-2.3, -1.8); **DLQI** (-4.9 (-5.4, -4.3)

For dupilumab versus other drugs, see Evidence Report

Mechanisms of action and efficacy

Dupilumab was the first marketed fully human IgG4 monoclonal antibody (mAb) in the treatment of AE and has been available for treatment of adults for more than 6 years in many countries. It is now also approved for children from 6 months of age. Dupilumab binds to the α-subunit of the IL-4 receptor, which is part of both the IL-4 and IL-13 receptor complex. The safety and efficacy of dupilumab was primarily established in placebo-controlled studies in moderate-to-severe AE[3]. Dupilumab showed significant clinical effects across 3 distinct severity assessment tools: Eczema Area and Severity Index (EASI), Investigator's Global Assessment (IGA), and SCORing Atopic Dermatitis (SCORAD). Moreover, dupilumab treatment significantly reduced pruritus. Dupilumab has shown efficacy in both intrinsic and extrinsic AE.[4] Dupilumab is also registered for treatment of moderate-to-severe asthma, eosinophilic esophagitis, and chronic rhinosinusitis with nasal polyps, thereby covering several type 2 inflammatory diseases.

Dosage: acute flare, short term, long term

The approved dosing of dupilumab in adults consists of a 600 mg subcutaneous loading dose followed by maintenance doses of 300 mg every other week (Q2W). For children the following dosing regimens are used: licensed for ≥ 6 months; age 6 months-6 years: from 5kg <15 kg 200 mg Q4W, 15kg <30 kg 300 mg Q4W. Age 6-11: from 15kg <60kg, initially 300 mg s.c. day 1 &15 followed by 300 mg Q4W, when ≥60 kg, initially 600 mg s.c. day 1 followed by 300 mg Q2W. Age 12-17: <60 kg: initially 400 mg s.c. day 1 followed by 200 mg Q2W, when ≥60 kg: initially 600 mg s.c. day 1 followed by 300 mg Q2W.

Dupilumab has been used in an open label study for up to 5 years in adults with moderate-to-severe AE[5,6], but some former trial patients have continued open label on the medication much longer. Safety data were consistent with previously reported trials and the known dupilumab safety profile.

Safety

Dupilumab treatment is in general well tolerated, and routine blood tests are not necessary, but a substantial number of patients develops ocular surface disease (over 30% in some 'real world' settings report conjunctivitis), of which most are mild-to-moderate.[7-10] Key risk factors are pre-existing eyelid eczema, pre-existing allergic eye disease, pre-existing conjunctivitis, dry eye disease, and elevated IgE/eosinophil levels.[11] Topical treatment with anti-inflammatory eyedrops is often sufficient, without need to discontinue treatment.[12] There is now also more detailed guidance on how to deal with dupilumab-related ocular surface disorders.[13] In addition, a subset of patients may experience dupilumab-associated facial erythema after treatment initiation, which is usually mild and self-limiting.[14] Transient blood eosinophilia[7] can also occur, typically without clinical consequences. There have also been reports of arthralgia or arthritis-like symptoms developing during dupilumab therapy.[15]

Screening and monitoring

The guideline committee considers that biochemical or instrumental investigations are not required for screening or treatment monitoring. This is consistent with the manufacturer's information.

Combination with other treatments

We recommend combining dupilumab, as any systemic treatment, with emollients and, whenever needed, topical anti-inflammatory treatment in AE patients

Special considerations

AE patients with type 2 comorbidities such as prurigo nodularis, asthma, chronic rhinosinusitis with nasal polyps (CRSwNP), and/or eosinophil esophagitis may also have beneficial effects of dupilumab treatment on these diseases.

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