Supplementary Online Content

Drucker AM, Ellis AG, Bohdanowicz M, et al. Systemic immunomodulatory treatments for patients with atopic dermatitis: a systematic review and network meta-analysis. *JAMA Dermatol.* Published online April 22, 2020. doi:10.1001/jamadermatol.2020.0796

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Risk of Bias in Trials

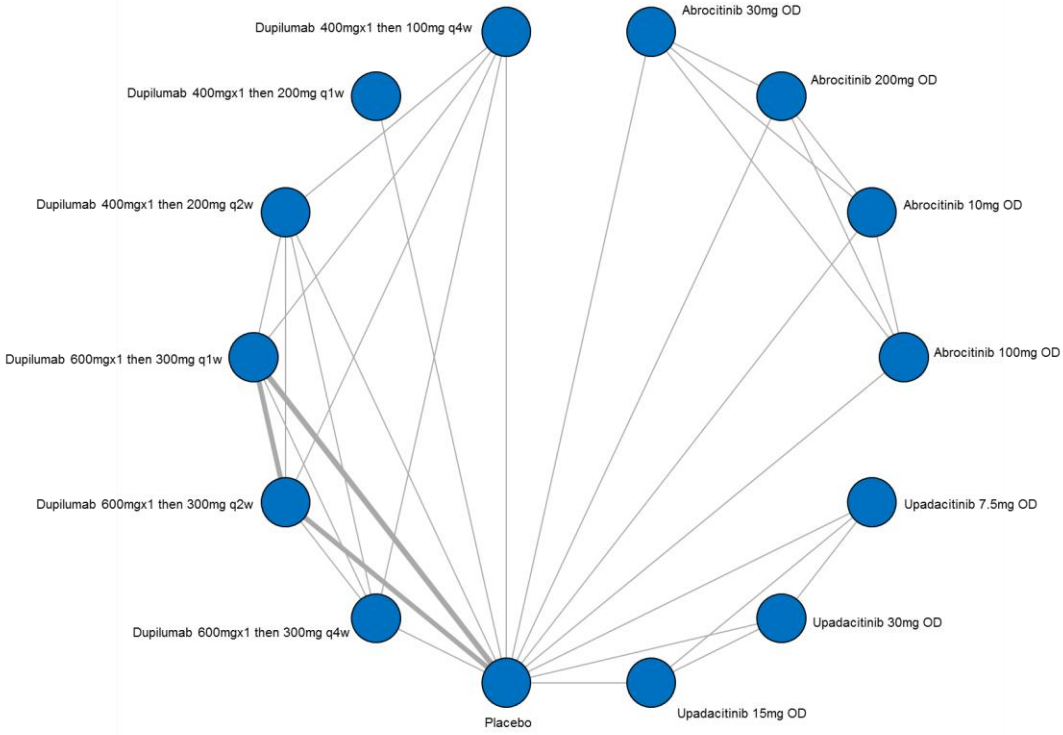
Reference	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias
Sowden UK 1991[1]	Unclear	Unclear	Low	Low	High	Unclear	Low
Hanifin USA 1993[2]	Low	Unclear	Low	Unclear	High	Unclear	Low
Munro UK 1994[3]	Unclear	Unclear	Low	Unclear	High	Unclear	Unclear
Czech Germany 2000[4]	Low	Unclear	Unclear	Unclear	Low	Unclear	Unclear
Jang Korea 2000[5]	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Granlund Finland 2001[6]	Unclear	Unclear	High	High	Unclear	Unclear	Low
Berth-Jones UK 2002[7]	Low	Unclear	Low	Unclear	High	Unclear	High
Pacor Italy 2004[8]	Unclear	Unclear	Low	Low	Low	Unclear	Unclear
Bemanian Iran 2005[9]	Unclear	Unclear	High	High	High	Unclear	Unclear
Meggit UK 2006[10]	Low	Unclear	Low	Unclear	Unclear	Unclear	Low
Jee Korea 2011[11]	Unclear	Unclear	Unclear	Unclear	High	Unclear	High
Schram Holland 2011[12]	Low	Low	High	Unclear	Low	Low	Low
El-Khalawany Egypt 2013[13]	Low	Unclear	High	High	Low	Low	Low
Iyengar USA 2013[14]	Unclear	Unclear	Unclear	Unclear	Low	High	Low

Reference	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias
Beck USA 2014[15,16]	Low	Low	Low	Low	Low	Low	Low
Khattri USA 2017[17]	Low	Low	Low	Low	Low	Low	Low
Simpson USA 2016 SOLO1[18]	Low	Low	Low	Low	Low	Low	Low
Simpson USA 2016 SOLO2[18]	Low	Low	Low	Low	Low	Low	Low
Thaci Germany 2015[19,20]	Low	Low	Low	Low	Low	Low	Low
Blauvelt USA 2017[21]	Low	Low	Low	Low	Low	Low	Low
Goujon France 2018[22]	Low	Low	High	Low	Unclear	Low	Low
Ruzicka Germany 2017[23]	Low	Low	Low	Low	High	Low	Low
Saeki Japan 2017[24]	Low	Low	Low	Low	Low	Low	Low
Upadacitinib abstracts 2019[25,26]	Unclear	Unclear	Low	Low	Low	Unclear	Low
de Bruin-Weller Netherlands 2018[27]	Low	Low	Low	Low	Low	Low	Low
Guttman-Yassky USA 2018 Fezakinumab[28]	Unclear	Unclear	Low	Low	Low	Low	Low
Guttman-Yassky USA 2018 Baricitinib[29]	Low	Low	Low	Low	Low	Low	Low
Simpson USA 2018 Lebrikizumab[30]	Low	Unclear	Low	Low	Low	Low	Low

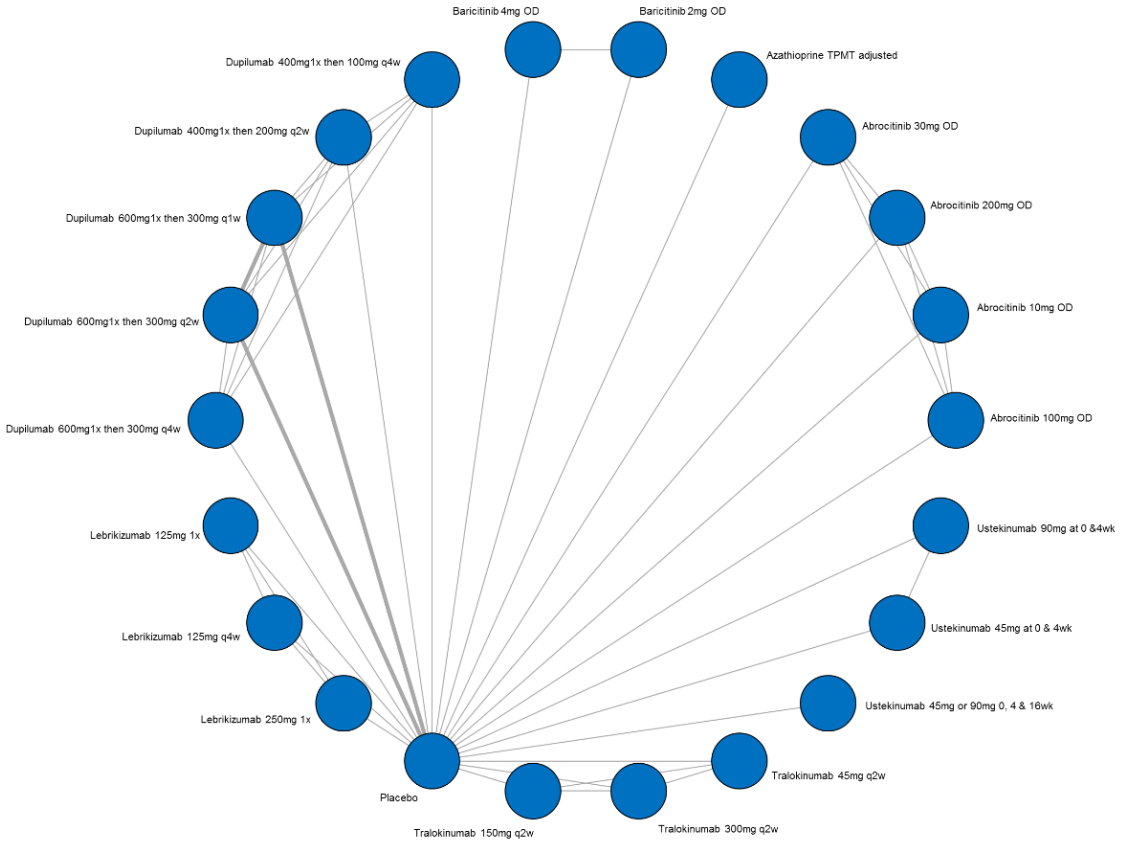
Reference	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias
Wollenberg USA 2018[31]	Low	Low	Low	Low	Low	Low	Low
Blauvelt USA 2018[32]	Low	Low	Low	Low	Unclear	Low	Low
Guttman-Yassky USA 2019 Dupilumab[33]	Low	Low	Low	Low	Unclear	Low	Low
Guttman-Yassky USA 2019 GBR 830[34]	Low	Low	Low	Low	Low	High	Low
Simpson USA 2018 Apremilast[35]	Low	Low	Low	Low	Low	Unclear	Low
Simpson USA 2019 Tezepelumab[36]	Low	Low	Low	Low	High	Low	Low
Werfel Germany 2018[37]	Low	Low	Low	Low	High	Low	Low
NCT01785602; Fevipiprant (QAW039)[38]	Unclear	Unclear	Low	Low	Unclear	Low	Low
Gooderham Canada 2019[39,40]	Low	Low	Low	Low	High	Unclear	Low
Paller USA 2019 Dupilumab[41,42]	Unclear	Unclear	Low	Low	Low	Low	Low
Silverberg USA 2019 Dupilumab[43,44]	Low	Low	Low	Low	Unclear	Low	Low

Reasons for risk of bias assessment can be found at eczematherapies.com/research.

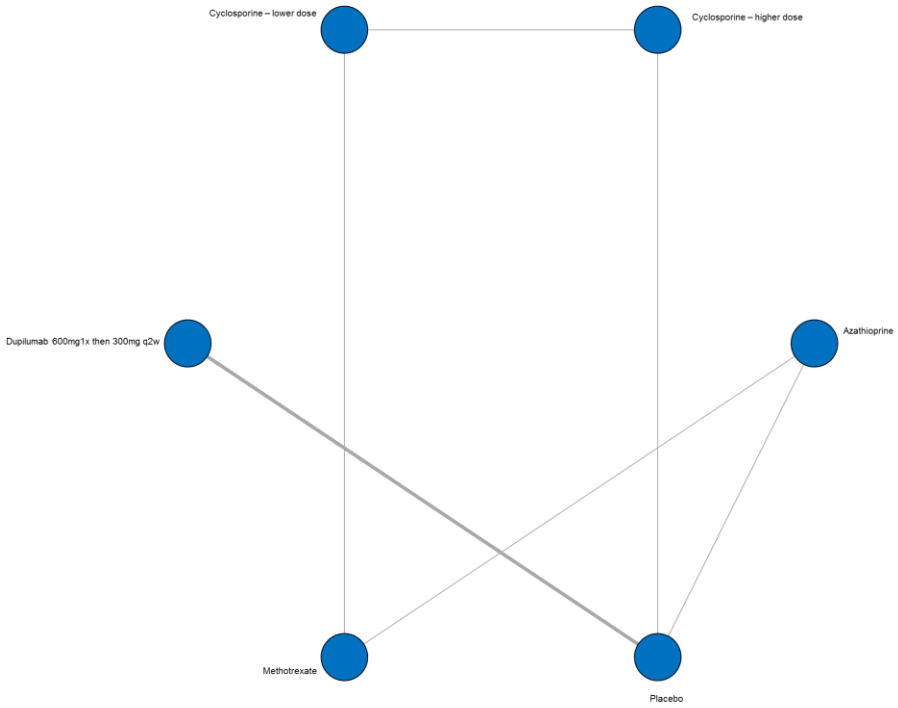
eFigure 1. Network Plot of Arms Included in the Network Meta-analysis of Change in POEM Score up to 16 Weeks of Treatment – Main Analysis



eFigure 2. Network Plot of Arms Included in the Network Meta-analysis of Change in DLQI Score up to 16 Weeks of Treatment – Main Analysis



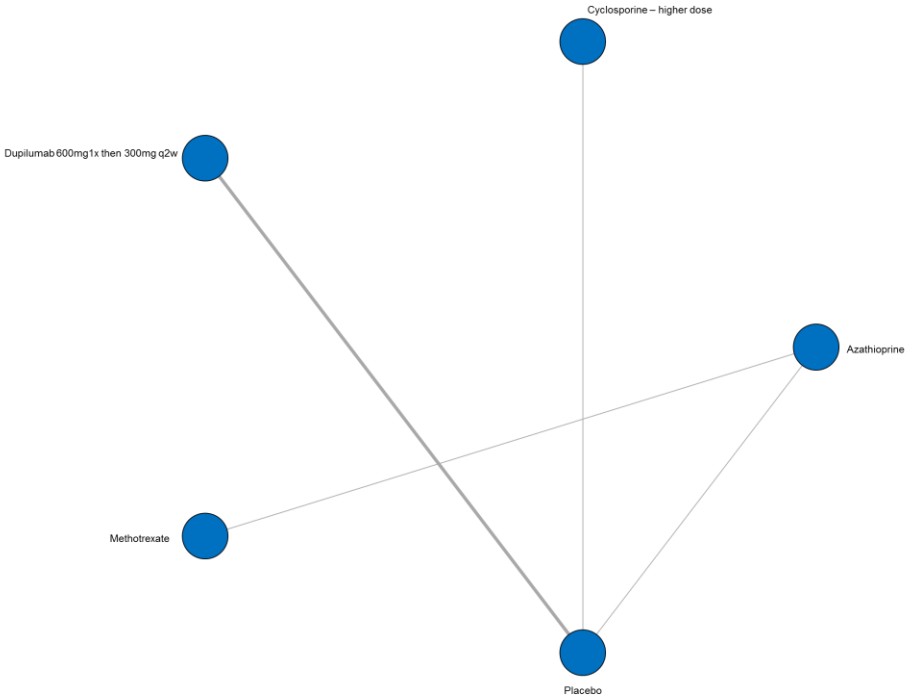
eFigure 3. Network Plot of Arms Included in the Network Meta-analysis of Change in QoL on the Standardized Mean Difference Scale up to 16 Weeks of Treatment – Among Medications Currently in Use



eTable 2. League Table of Arms Included in the Network Meta-analysis of Change in QoL on the Standardized Mean Difference Scale up to 16 Weeks of Treatment Among Medications Currently in Use

Azathioprine	-0.5 (-1.3, 0.3)	-0.2 (-1, 0.5)	-0.7 (-1.3, 0)	-0.1 (-0.7, 0.6)	0.1 (-0.5, 0.8)
0.5 (-0.3, 1.3)	**Cyclosporine - higher dose**	0.3 (-0.3, 0.8)	-0.1 (-0.9, 0.6)	0.5 (-0.3, 1.2)	0.7 (0, 1.4)
0.2 (-0.5, 1)	-0.3 (-0.8, 0.3)	**Cyclosporine - lower dose**	-0.4 (-1.2, 0.4)	0.2 (-0.4, 0.7)	0.4 (-0.4, 1.1)
0.7 (0, 1.3)	0.1 (-0.6, 0.9)	0.4 (-0.4, 1.2)	**Dupilumab 600mg 1x then 300mg q2w**	0.6 (-0.2, 1.4)	0.8 (0.6, 1)
0.1 (-0.6, 0.7)	-0.5 (-1.2, 0.3)	-0.2 (-0.7, 0.4)	-0.6 (-1.4, 0.2)	**Methotrexate**	0.2 (-0.5, 1)
-0.1 (-0.8, 0.5)	-0.7 (-1.4, 0)	-0.4 (-1.1, 0.4)	-0.8 (-1, -0.6)	-0.2 (-1, 0.5)	**Placebo**

eFigure 4. Network Plot of Arms Included in the Network Meta-analysis of Change in Itch on the Standardized Mean Difference Scale up to 16 Weeks of Treatment – Among Medications Currently in Use



eTable 3. League Table of Arms Included in the Network Meta-analysis of Change in Itch on the Standardized Mean Difference Scale up to 16 Weeks of Treatment Among Medications Currently in Use

Results are presented as the mean difference (95% CrI) in itch between the two arms on the standardized mean difference. A positive effect estimate in a given cell favors the row-defining treatment. A negative effect estimate in a given cell favors the column-defining treatment.

Azathioprine	-0.5 (-1.9, 0.8)	-0.6 (-1.5, 0.3)	0 (-0.8, 0.9)	0.3 (-0.6, 1.1)
0.5 (-0.8, 1.9)	**Cyclosporine - higher dose**	0 (-1.2, 1)	0.6 (-1.1, 2.2)	0.8 (-0.3, 1.8)
0.6 (-0.3, 1.5)	0 (-1, 1.2)	**Dupilumab 600mg 1x then 300mg q2w**	0.6 (-0.6, 1.9)	0.8 (0.5, 1.2)
0 (-0.9, 0.8)	-0.6 (-2.2, 1.1)	-0.6 (-1.9, 0.6)	**Methotrexate**	0.2 (-1, 1.4)
-0.3 (-1.1, 0.6)	-0.8 (-1.8, 0.3)	-0.8 (-1.2, -0.5)	-0.2 (-1.4, 1)	**Placebo**

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