

Table 1. Guideline recommendations for additional immunosuppression for steroid-refractory ICI-induced myocarditis

Guideline	Additional immunosuppressant treatment
<p>UK Oncology Nursing Society (UKONS) Guideline 28 2023⁴</p>	<p>Consider:</p> <ul style="list-style-type: none"> • MMF; • tacrolimus. <p>If limited response, consider:</p> <ul style="list-style-type: none"> • infliximab; • tocilizumab; or • abatacept. <p>A further DMARD e.g. azathioprine, could also be considered.</p>
<p>European Society of Cardiology (ESC) Lyon et al. 2022¹³</p>	<p>MDT discussion recommended due to lack of data to recommend a specific second-line immunosuppression regimen. Agents being investigated include: anti-thymocyte globulin (ATG); MMF; immunoglobulin; plasma exchange; tocilizumab; abatacept; alemtuzumab and tofacitinib. Caution advised against the use of infliximab for steroid-refractory myocarditis and heart failure.</p>
<p>European Society for Medical Oncology (ESMO) Haanen et al. 2022⁷</p>	<p>2nd-line options:</p> <ul style="list-style-type: none"> • tocilizumab 8 mg/kg; • MMF. <p>3rd-line options:</p> <ul style="list-style-type: none"> • ATG; • alemtuzumab; • abatacept.
<p>Society for Immunotherapy of Cancer (SITC) Brahmer et al. 2021¹¹</p>	<p>2nd-line options (added if no response within 24 hours):</p> <ul style="list-style-type: none"> • ATG; • MMF; • abatacept; • alemtuzumab. <p>Caution advised against the use of infliximab for steroid-refractory myocarditis.</p>
<p>American Society of Clinical Oncology (ASCO) Schneider et al. 2021⁹</p>	<p>Consider the addition of either:</p> <ul style="list-style-type: none"> • MMF; • infliximab; or • ATG. <p>Consider abatacept or alemtuzumab as additional immunosuppression in life-threatening cases. Note that infliximab is contraindicated at high doses (i.e. 5 mg/kg) in patients with moderate-severe heart failure.</p>
<p>National Comprehensive Cancer Network (NCCN) Thompson et al. 2020¹⁰</p>	<p>If no improvement with high-dose steroids is noted within 24 hours, consider the addition of:</p> <ul style="list-style-type: none"> • ATG; • infliximab; • intravenous immunoglobulin (IVIG); or • MMF. <p>Note that infliximab is contraindicated for patients who have heart failure.</p>
<p>ATG: anti-thymocyte globulin; DMARD: disease-modifying anti-rheumatic drug; MDT: multi-disciplinary team; MMF: mycophenolate mofetil</p>	