Immune-Related Adverse Event: Pneumonitis

Pulmonary irAEs have been observed following treatment with immunotherapy and have occurred after a single dose and after as many as 48 treatments. The frequency of pulmonary AEs may be greater with immunotherapy combination therapies than with monotherapy. The majority of cases reported were Grade 1 or Grade 2 and subjects presented with either asymptomatic radiographic changes (e.g., focal ground glass opacities, patchy infiltrates) or with symptoms of dyspnoea, cough, or fever. Subjects with reported Grade 3 or Grade 4 pulmonary AEs were noted to have more severe symptoms, more extensive radiographic findings, and hypoxia.

Mild (Grade 1)
Clinically asymptomatic with Radiographic changes only (e.g., focal ground glass opacities, patchy infiltrates)

Clinical Assessment & O2 SATS
Investigations:
- Sputum sample for MC and S
- Baseline bloods (FBC, U & E’s, LFT’s, calcium, CRP)

Actions:
- Monitor symptoms weekly and re-image if worsening
- Consider delay of immunotherapy

Symptoms: WORSEN

Moderate (Grade 2)
Mild to moderate new onset of symptoms limiting instrumental ADL (e.g., dyspnoea, cough, fever, chest pain)

Clinical Assessment & O2 SATS
Investigations:
- Sputum sample for MC&S
- Baseline bloods (FBC, U&Es, LFTs, calcium, CRP)
- CT imaging (HR CT/CXR if out of hours)

Treatment:
- Prednisolone 0.5 - 1mg/kg/day (max. 60mg/day prednisolone) + PPI
- If evidence of infection consider ABX as per local protocol

Actions:
- Hold immunotherapy
- Consider hospital admission
- Refer to a chest physician
- Monitor symptoms daily with clinical examination review if symptoms worsening (with repeat imaging)

Assess response to treatment within 72 hours

Symptoms: Resolve or Improve to Mild
See steroid tapering guidance

PERSIST or WORSEN or RELAPSE

Severe/Life-Threatening (Grade 3+ 4)
Severe new onset of symptoms limiting self-care ADL; or Hypoxia (new or worsening); or ARDS

Clinical Assessment & O2 SATS
Investigations:
- As per moderate (grade 2)
- +/- Pulmonary function test

To exclude atypical infections:
- Beta-D-glucan
- Urine legionella and pneumococcal antigen
- Mycoplasma serology

Treatment:
- IV Methylprednisolone 2mg/kg/day + PPI
- Oxygen therapy
- Consider increasing to 4mg/kg/day if clinical improvement is unsatisfactory
- If evidence of infection consider ABX as per local protocol
- Discuss the role of ABX with local respiratory team

Actions:
- Discontinue immunotherapy
- Refer to a chest physician
- Monitor symptoms daily with clinical examination and repeat imaging as indicated, if symptoms worsening, repeat imaging is required

Admit patient

Review patient daily, if no improvement within 72 hours, seek chest physician advice for further advice and management

Interrupt SACT immunotherapy until discussed with Acute Oncology Team. Please contact on-call oncology/haematology team for advice. Ensure that Acute Oncology/Haematology team are informed of admission.