For Health Care Professionals: Educational Materials

Tecentriq® (atezolizumab)

Important Safety Information to Minimize the Risks of Immune-Related Adverse Reactions
For Healthcare Professionals

Indications

For the approved indications of Tecentriq, please yrefer to the accompanying Summary of Product Characteristics.

Important Safety Information

This guide is intended to provide information about the management of certain important identified risks when prescribing Tecentriq®, including immune-related pneumonitis, hepatitis, colitis, hypothyroidism, hyperthyroidism, adrenal insufficiency, hypophysitis, type 1 diabetes mellitus, myasthenic syndrome/myasthenia gravis, Guillain-Barre syndrome, meningoencephalitis, pancreatitis, myocarditis, myositis, nephritis and infusion related reactions.

All patients receiving treatment with Tecentriq® must be given a Patient Alert Card by their healthcare professional to educate them about the symptoms of immune-related adverse reactions and the need to report them to their treating doctor immediately. Treating doctors should also advise their patients to keep the Patient Alert Card with them at all times and show it to any healthcare professional who may treat them.

To obtain copies of the Patient Alert Card, please contact Roche Medical Information department from Local Safety Responsible of F.Hoffmann La Roche products in Armenia, Gayane Ghazaryan via following contacts: mob.: +374 91 796688, email: gayaneh.ghazaryan@gmail.com; or back up, Nune Karapetyan via following contacts: mob: +374 91 721153 or email: nune.karapetyan.roche@gmail.com.
or download via “SCIENTIFIC CENTRE OF DRUG AND MEDICAL TECHNOLOGY EXPERTISE AFTER ACADEMICIAN E. GABRIELYAN CJSC “ website: www.pharm.am
For more information, please refer to Tecentriq® Summary of Product Characteristics at “SCIENTIFIC CENTRE OF DRUG AND MEDICAL TECHNOLOGY EXPERTISE AFTER ACADEMICIAN E. GABRIELYAN CJSC “ website: www.pharm.am

▼ This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions according to local requirements via the national reporting system to the SCIENTIFIC CENTRE OF DRUG AND MEDICAL TECHNOLOGY EXPERTISE AFTER ACADEMICIAN E. GABRIELYAN CJSC via following contacts: address: 49/4 Komitas av., 0051 Yerevan, Armenia; HOT LINE: (+ 374 10) 20-05-05, (+374 10)22-05-05, email: vigilance@pharm.am Adverse reactions should also be reported to Roche Products Ltd. Please contact Local Safety Responsible of F.Hoffmann La Roche products in Armenia, Gayane Ghazaryan via following contacts: mob.: +374 91 796688, email: gayaneh.ghazaryan@gmail.com; or back up, Nune Karapetyan via following contacts: mob: +374 91 721153 or email: nune.karapetyan.roche@gmail.com., or direct your reports to Roche Moscow DS Hub via following contacts: tel.: +7-495-229 2999, Fax: +7-495- 229 7999, email: moscow.ds@roche.com; website: www.roche.ru.

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Explore the Following Sections to Learn More About Managing Immune-Related Adverse Reactions:

What is Tecentriq®?

Binding of PD-L1 to the PD-1 and B7.1 receptors found on T cells suppresses cytotoxic T-cell activity through the inhibition of T-cell proliferation and cytokine production. PD-L1 may be expressed on tumor cells and tumor-infiltrating immune cells, and can contribute to the inhibition of the antitumor immune response in the microenvironment. Atezolizumab is an Fc-engineered humanized immunoglobulin G1 (IgG1) monoclonal antibody that directly binds to PD-L1 and blocks interactions with the PD-1 and B7.1 receptors, releasing PD-L1 / PD-1 pathway-mediated inhibition of the immune response, including reactivating the antitumor immune response.

Common Adverse Reactions

The safety profile of Tecentriq as monotherapy has been evaluated in pooled data from 3,178 patients across multiple tumour types. In this patient population, the most common adverse reactions (>10%) were fatigue (35.9%), decreased appetite (25.5%), nausea (23.5%), cough (20.8%), dyspnoea (20.5%), pyrexia (20.1%), diarrhoea (19.7%), rash (19.5%) , back pain (15.3%), vomiting (15.1%), asthenia (14.5%), arthralgia (13.9%), musculoskeletal pain (13.1%), pruritus (12.6%)and urinary tract infection (11.6%). The majority of adverse reactions were mild to moderate (Grade 1 or 2).

Recognise and Manage Immune-Related Adverse Reactions Associated With Therapy

Tecentriq® is associated with immune-related adverse reactions

- Early identification and timely intervention can help to reduce the severity and duration of immune-related adverse reactions.
- Other aetiologies for adverse events should be considered.

For suspected immune-related adverse reactions, ensure adequate evaluation to confirm aetiology or exclude other causes. Based on the severity of the adverse reactions:

- Withhold Tecentriq® and administer corticosteroids. Upon improvement to Grade ≤ 1, initiate corticosteroid taper and continue to taper over at least 1 month.
    - Rapid tapering may lead to worsening of adverse reaction
- Consider to restart Tecentriq® within 12 weeks after adverse reaction onset date if the adverse reaction improves to and remains at Grade ≤ 1 and corticosteroid dose is ≤ 10 mg prednisone or equivalent per day.
- Permanently discontinue Tecentriq® if any Grade ≥3 toxicity occurs a second time and for any Grade 4 immune-related adverse reaction, except for endocrinopathies that are controlled with replacement hormones.
- Based on limited data from clinical studies in patients whose immune-related adverse reactions could not be controlled with corticosteroid use, administration of other systemic immunosuppressants can be considered.

If immunosuppression with corticosteroids is used to treat an immune-related adverse reaction, a taper of at least 1 month duration should be initiated upon improvement

- Rapid tapering may lead to worsening of adverse reaction

Non-corticosteroid immunosuppressive therapy should be added if there is worsening or no improvement despite corticosteroid use.

Tecentriq® should not be resumed while the patient is receiving immunosuppressive doses of corticosteroids[1] or other immunosuppressants.

Tecentriq® should also be permanently discontinued for immune-related adverse reactions that persist despite treatment modifications (described in this guide) or if a reduction of corticosteroid dose to ≤10 mg oral prednisone or equivalent per day cannot be achieved within 12 weeks of adverse reaction onset date. Please see the next section for detailed information regarding individual immune-related adverse reactions and management recommendations.

Immune-Related Pneumonitis

- Cases of pneumonitis, including fatal cases, have been observed with Tecentriq® treatment
- Monitor patients for signs and symptoms of pneumonitis (see below)

Pneumonitis

Signs and symptoms

- Breathing difficulties or cough
- Radiographic changes (e.g., focal ground glass opacities, patchy infiltrates)
- Dyspnea
- Hypoxia

Rule out infectious and disease-related etiologies

Pneumonitis occurred in 2.7% (87/3178) of patients who received Tecentriq®.

Managing Immune-Related Pneumonitis

NCI CTCAE v4	**Pneumonitis Grade 2** (Symptomatic; medical intervention indicated; worsens from baseline)	**Pneumonitis Grade 3-4** (Severe symptoms; O_2 indicated. G4: life threatening; urgent intervention indicated)
Tecentriq® treatment and monitoring	**Withhold Tecentriq®; monitor daily; consider bronchoscopy and lung biopsy and refer to a respiratory physician**	**Permanently discontinue Tecentriq®; monitor daily; consider bronchoscopy and lung biopsy and refer to a respiratory physician**
Corticosteroids	Prednisone 1-2 mg/kg or equivalent per day	Prednisone 1-2 mg/kg or equivalent per day
Follow-up	Reassess signs and symptoms every 1-2 weeks	Reassess signs and symptoms every 3- 5 days
	If improves to ≤ Grade 1: Taper corticosteroids over at least 1 month; treatment with Tecentriq® may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of oral prednisone 10 mg daily or less.	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month
	If no improvement, worsens or recurs: Treat as Grade 3/4	**If no improvement after 48 hr.**: Consider adding additional immunosuppressive medication.

[1] *Immunosuppressive doses of corticosteroids are defined by prednisone >10 mg daily PO, or equivalent.*

Immune-Related Hepatitis

- Cases of hepatitis, including fatal cases, have been observed with Tecentriq® treatment
- Monitor patients for signs and symptoms of hepatitis (see below)
- Aspartate aminotransferase (AST), alanine aminotransferase (ALT) and bilirubin should be monitored prior to initiation of treatment, periodically during treatment with Tecentriq® and as indicated based on clinical evaluation

Hepatitis

Signs and symptoms

- Elevations in transaminases
- Total bilirubin elevations
- Jaundice
- Right sided abdominal pain
- Tiredness

Rule out infectious and disease-related etiologies

Hepatitis occurred in 2.0% (62/3178) of patients who received Tecentriq®.

Managing Immune-Related Hepatitis

NCI CTCAE v4	**Hepatitis Grade 2** (AST/ALT >3.0 - 5.0x ULN or bilirubin >1.5 - 3.0x ULN)	**Hepatitis Grade 3-4** (G3: AST/ALT >5.0 - 20.0x ULN or bilirubin >3.0 - 10.0x ULN; G4: AST/ALT >20.0x ULN or bilirubin >10.0x ULN)
Tecentriq® treatment and monitoring	**Withhold Tecentriq® if persists >5-7 days; repeat LFTs every 1-3 days; ultrasound or CT scan;** and refer to a gastroenterologist.	**Permanently discontinue Tecentriq®; daily LFTs; consider liver biopsy; and refer to a gastroenterologist.**
Corticosteroids	Prednisone 1-2 mg/kg or equivalent per day, if Tecentriq® withheld	Prednisone 1-2 mg/kg or equivalent per day
Follow-up	Reassess LFTs every 1-2 weeks	Reassess LFTs every 3-5 days
	If improves to ≤ Grade 1: Taper corticosteroids over at least 1 month; Tecentriq® may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of oral prednisone 10 mg daily or less.	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month
	If no improvement, worsens or recurs: Treat as Grade 3/4	**If no improvement after 48 hr.**: Consider adding additional immunosuppressive medication

ALT: alanine aminotransaminase; AST: aspartate aminotransaminase; CT: computed tomography; LFTs: liver function tests; ULN: upper limit of normal.

Immune-Related Colitis

- Colitis has been observed with Tecentriq® treatment
- Monitor patients for diarrhoea and additional symptoms of colitis (see box below)

Colitis

Signs and symptoms

- Watery, loose or soft stools; increase in bowel movements or stool frequency
- Abdominal pain
- Mucus or blood in stool

Rule out infectious and disease-related aetiologies

Colitis occurred in 1.1% (34/3178) of patients who received Tecentriq®.

Managing Immune-Related Colitis

NCI CTCAE v4	**Diarrhoea / Colitis Grade 2** (Increase of 4-6 stools /day or moderate increase in ostomy output compared to baseline); or abdominal pain, mucus or blood in the stool	**Diarrhoea / Colitis Grade 3** (Increase of ≥7 stools /day or severe increase in ostomy output compared to baseline, incontinence, limiting self care ADL, hospitalization indicated); or severe abdominal pain; peritoneal signs	**Diarrhoea / Colitis Grade 4** (Life-threatening consequences; urgent intervention indicated)
Tecentriq® treatment/ other therapy and monitoring	**Withhold Tecentriq®; symptomatic therapy; monitor every 2-3 days**	**Withhold Tecentriq®; symptomatic therapy; monitor daily**	**Permanently discontinue Tecentriq®; symptomatic therapy; monitor daily; consider endoscopy with biopsy**
Corticosteroids	Prednisone 1-2 mg/kg or equivalent per day, if symptoms persists >5 days or recur	Treat with IV steroids (methylprednisolone 1-2 mg/kg or equivalent per day) and convert to oral corticosteroids (prednisone 1-2 mg/kg or equivalent per day) once improvement	Treat with IV steroids (methylprednisolone 1-2 mg/kg or equivalent per day) and convert to oral corticosteroids (prednisone 1-2 mg/kg or equivalent per day) once improvement
Follow-up	Reassess weekly	Reassess every 3-5 days	Reassess every 1-3 days
	If improves to ≤ Grade 1: Taper steroids over at least 1 month; Tecentriq® may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of oral prednisone 10 mg daily or less.	**If improves to ≤ Grade 1**: Taper steroids over at least 1 month; Tecentriq® may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of oral prednisone 10 mg daily or less.	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month
	If no improvement, worsens or recurs: Treat as Grade 3 or 4	**If no improvement, worsens or recurs:** Treat as Grade 4	**If no improvement after 48 hr.**: Consider adding additional immunosuppressive medication and refer to a gastroenterologist for additional care.

ADL: activities of daily living.

Immune-Related Endocrinopathies

- Severe endocrinopathies, including hypothyroidism, hyperthyroidism, adrenal insufficiency, type 1 diabetes mellitus including diabetic ketoacidosis, and hypophysitis have been observed with Tecentriq® treatment.
- Monitor patients for signs and symptoms of endocrinopathies (see below) and for changes in thyroid function and glucose control (at the start of treatment, periodically during treatment, and as indicated based on clinical evaluation). Appropriate management of patients with

abnormal thyroid function tests at baseline should be considered. Asymptomatic patients with abnormal thyroid function tests can receive atezolizumab.

- Blood and urine glucose and ketones should be tested, and fasting glucose sample to confirm hyperglycemia.
- Monitor patients for signs and symptoms of immune-related diabetes mellitus, including diabetic ketoacidosis.
- Pituitary hormone levels and function tests and magnetic resonance imaging (MRI) of the brain (with detailed pituitary sections) may help to differentiate primary pituitary insufficiency from primary adrenal insufficiency.

Endocrinopathies

Signs and symptoms

- Fatigue
- Headache
- Mental status change
- Heat or cold intolerance
- Tachycardia or bradycardia
- Unusual bowel habits
- Weight change
- Polyuria / polydipsia
- Blurred vision

Unless an alternate aetiology has been identified, signs and symptoms of endocrinopathies should be conservatively considered immune-related.

Hypothyroidism occurred in 5.2% (164/3178) of patients who received Tecentriq®. Hyperthyroidism occurred in 0.9% (30/3178) of patients who received Tecentriq®. Adrenal insufficiency occurred in 0.4% (12/3178) of patients who received Tecentriq®. Diabetes mellitus occurred in 0.3% (11/3178) of patients who received Tecentriq®. Hypophysitis occurred in <0.1% (2/3178) of patients who received Tecentriq®.

Managing Immune-Related Endocrinopathies

	Symptomatic Hypothyroidism	Symptomatic Hyperthyroidism	Symptomatic Adrenal insufficiency (Patients with unexplained symptoms should be investigated for the presence of pituitary or adrenal endocrinopathies)	Hyperglycemia (Grade 3-4) or Diabetic ketoacidosis (G3: Fasting glucose value >250 - 500 mg/dL or >13.9 - 27.8 mmol/L; hospitalization indicated; G4: Fasting glucose value >500 mg/dL or >27.8 mmol/L with life-threatening consequences)
Tecentriq® treatment/ other therapy and monitoring	**Withhold Tecentriq®; initiate thyroid replacement therapy as needed; TSH and clinical evaluation every 3-5 days**	**Withhold Tecentriq®; initiate symptomatic therapy including antithyroid medicinal product as needed; TSH, free T3/T4 every 3-5 days**	**Withhold Tecentriq®; initiate physiological corticosteroid and mineralocorticoid replacement or hormone replacement as needed;** TSH, prolactin and morning cortisol may help differentiate primary adrenal insufficiency from primary pituitary process; consider appropriate imaging	**Withhold Tecentriq®; confirm fasting glucose, C-peptide and anti-insulin antibodies; arterial blood gas for metabolic status; consider endocrinologist referral** Start insulin replacement and management per local guidelines
Corticosteroids		–	Treat with an initial dose of IV methylprednisolone 1-2 mg/kg per day followed by oral prednisone 1-2 mg/kg per day, when symptoms improve	–
Follow-up	Reassess weekly	Reassess weekly	Reassess every 1-3 days	Once hyperglycemia or DKA has resolved, reassess every cycle with random blood glucose and per local diabetes management guidelines
	If improves: Restart Tecentriq® when symptoms are controlled by thyroid replacement and TSH levels are decreasing	**If improves**: Restart Tecentriq® when symptoms are controlled by **antithyroid medicinal product**	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month; Treatment may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of ≤ 10 mg oral prednisone per day and patient is stable on replacement therapy (if required).	**If improves and glucose levels are stable on insulin replacement**: Restart Tecentriq®
	If no improvement or worsens: Permanently discontinue Tecentriq® and refer to an endocrinologist for additional care.	**If no improvement or worsens: Permanently discontinue Tecentriq® and refer to an endocrinologist for additional care.**	**If worsens or symptomatic adrenal insufficiency recurs: Permanently discontinue Tecentriq® and refer to an endocrinologist for additional care.**	**If no improvement or worsens despite appropriate diabetes management: Permanently discontinue Tecentriq® and refer to an endocrinologist for additional care.**

DKA: diabetic ketoacidosis; TSH: thyroid stimulating hormone; T3: triiodothyronine; T4: thyroxine.

	Hypophysitis (pan-hypopituitarism) Grade 2-3 (G2: Moderate; minimal intervention indicated; or limiting age appropriate instrumental ADL; G3: Severe or medically significant, but not immediately life threatening; hospitalization or prolongation of hospitalization indicated; disabling; or limiting self care ADLs)	Hypophysitis (pan-hypopituitarism) Grade 4 (G4: life-threatening consequences or urgent intervention indicated)
Tecentriq® treatment/ other therapy and monitoring	**Withhold Tecentriq®; refer to endocrinologist; monitor pituitary hormone levels and pituitary function; initiate hormone replacement therapy as needed; pituitary imaging by MRI**	**Permanently discontinue Tecentriq®; refer to endocrinologist; monitor pituitary hormone levels and pituitary function; initiate hormone replacement therapy; pituitary imaging by MRI**
Corticosteroids	Treat with IV steroids (methylprednisolone 1-2 mg/kg or equivalent per day) and convert to oral corticosteroids (prednisone 1-2 mg/kg or equivalent per day) once improvement	Treat with IV steroids (methylprednisolone 1-2 mg/kg or equivalent per day) and convert to oral corticosteroids (prednisone 1-2 mg/kg or equivalent per day) once improvement
Follow-up	Reassess every 1-3 days	Reassess daily
	If improves to ≤ Grade 1: Taper corticosteroids over at least 1 month; Treatment may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of ≤ 10 mg oral prednisone per day and patient is stable on replacement therapy (if required).	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month
	If worsens or recurs: Treat as Grade 4	**If no improvement or worsens:** Consider adding additional immunosuppressive medication and refer to an endocrinologist for additional care.

ADL: activities of daily living.

Immune-Related Meningoencephalitis

- Meningoencephalitis has been observed with Tecentriq® treatment
- Monitor patients for signs and symptoms of meningitis or encephalitis (see below)

Meningoencephalitis

Signs and symptoms

- Headache
- Mental status change, confusion, altered or depressed level of consciousness
- Photophobia
- Seizure
- Motor or sensory dysfunction
- Meningeal irritability, nuchal rigidity

Rule out infectious and disease-related aetiologies

Meningoencephalitis occurred in 0.4% (13/3178) of patients who received Tecentriq®.

Managing Immune-Related Meningoencephalitis

	Immune-related meningoencephalitis
Tecentriq® treatment and monitoring	**Permanently discontinue Tecentriq®;** urgent CT or MRI of the brain, lumbar puncture; daily clinical evaluation (rule out metabolic or electrolyte imbalance, infectious aetiologies, progression of malignancy or paraneoplastic syndromes)
Corticosteroids	Treat with IV corticosteroids (methylprednisolone 1-2 mg/kg or equivalent per day) followed by oral corticosteroids (prednisone 1-2 mg/kg or equivalent per day) after improvement.
Follow-up	Reassess every 1- 3 days
	If improves to ≤ Grade 1: Taper steroids over at least 1 month.
	If not improving after 48 hr. or worsening: Consider adding additional immunosuppressive medication and refer to a neurologist for additional care.

CT: computed tomography; MRI: magnetic resonance imaging.

Immune-Related Neuropathies

- Myasthenic syndrome/myasthenia gravis and Guillain-Barré syndrome have been observed with Tecentriq® treatment
- Monitor patients for signs and symptoms immune-mediated neuropathies (see box below)

Motor and Sensory Nerve Disorders

Signs and symptoms

- Muscle weakness (including ocular muscles)
- Fatigability
- Difficulty swallowing
- Paresthesia or altered sensation
- Ascending or progressive paralysis
- Respiratory muscle weakness
- Meningeal irritability, nuchal rigidity

Rule out infectious and disease-related aetiologies

Neuropathies, including Guillain-Barré syndrome and demyelinating polyneuropathy occurred in 0.2% (5/3178) of patients who received Tecentriq®. Myasthenia gravis occurred in <0.1% (1/3178) of patients who received Tecentriq®.

Managing Immune-Related Neuropathies

	Myasthenia Gravis, Myasthenic syndrome, Guillain-Barré syndrome (Patients should be investigated for a thymoma and presence of paraneoplastic syndromes that may present with motor and sensory nerve disorders.)
Tecentriq® treatment/ other therapy and monitoring	**Permanently discontinue Tecentriq®; treat as per institutional guidelines;** neurological assessment, pulmonary function testing, autoantibodies, lumbar puncture, edrophonium test, nerve stimulation, electromyography, as appropriate. Consider referral to a neurologist.
Corticosteroids	**As per institutional guidelines for Myasthenia Gravis and Guillain-Barré syndrome.** Initiation of systemic corticosteroids (at a dose of 1 to 2mg/kg/day of prednisone or equivalent) should be considered.
Follow-up	Reassess daily
	If improves to ≤ Grade 1: Taper corticosteroids over at least 1 month (if corticosteroids started)
	If no improvement after 48 hr.: Consider adding additional immunosuppressive medication and refer to a neurologist for additional care.

Immune-Related Pancreatitis

- Cases of immune-related pancreatitis and increases in serum amylase and lipase levels, have been observed with Tecentriq® treatment
- Patients should be closely monitored for signs and symptoms that are suggestive of acute pancreatitis

Rule out infectious and disease-related aetiologies

Pancreatitis and elevations in serum amylase and lipase occurred in 0.6% (18/3178) of patients who received Tecentriq®.

Managing Immune-Related Pancreatitis

NCI CTCAE v4	**Amylase or Lipase elevation Grade 3-4** (G3: amylase/lipase >2.0-5.0x ULN; G4: amylase/lipase >5.0x ULN)	**Pancreatitis Grade 2 or 3** (G2: enzyme elevation or radiologic findings only; G3: severe pain; vomiting)	**Pancreatitis Grade 4** (Life-threatening consequences; urgent intervention indicated)
Tecentriq® treatment/ other therapy	**Withhold Tecentriq®**; Monitor amylase/lipase daily	**Withhold Tecentriq®;** Monitor amylase/lipase and clinical condition daily **Medical management of pancreatitis**	**Permanently discontinue Tecentriq®;** Monitor amylase/lipase and clinical condition daily **Aggressive medical management of pancreatitis**
Corticosteroids	Methylprednisolone 1-2 mg/kg IV daily or equivalent and convert to 1-2 mg/kg oral prednisone or equivalent per day (once symptoms improve)	Methylprednisolone 1-2 mg/kg IV daily or equivalent and convert to 1-2 mg/kg oral prednisone or equivalent per day (once symptoms improve)	Methylprednisolone 1-2 mg/kg IV daily or equivalent and convert to 1-2 mg/kg oral prednisone or equivalent per day (once symptoms improve)
Follow-up	Reassess every 1-3 days	Reassess every 1-3 days	Reassess daily
	If improves to ≤ Grade 1:	**If improves to ≤ Grade 1**:	**If improves to ≤ Grade 1**:

	Treatment with Tecentriq® may be resumed when serum amylase and lipase levels improve to Grade 0 or Grade 1 within 12 weeks, and corticosteroids have been reduced to ≤ 10 mg oral prednisone or equivalent per day.	Treatment with Tecentriq® may be resumed when serum amylase and lipase levels improve to Grade 0 or Grade 1 within 12 weeks, or symptoms of pancreatitis have resolved, and corticosteroids have been reduced to ≤ 10 mg oral prednisone or equivalent per day.	Taper corticosteroids over at least 1 month
	If recurs: Treat as Grade 3 or 4 elevation, unless signs/symptoms of pancreatitis	**If recurs:** **Permanently discontinue Tecentriq® and refer to a gastroenterologist for additional care.**	**If worsens:** **Consider additional immunosuppressive medications and refer to a gastroenterologist for additional care.**

Immune-Related Myocarditis

- Cases of immune-related myocarditis have been observed with Tecentriq® treatment
- Patients should be closely monitored for signs and symptoms that are suggestive of acute myocarditis

Immune-Related Myocarditis

Signs and symptoms

- Shortness of breath
- Decreased exercise tolerance
- Fatigability
- Chest pain
- Swelling of ankles or legs
- Irregular heart beat
- Fainting

Rule out infectious and disease-related aetiologies

Myocarditis occurred in <0.1% (2/8,000) of patients who received Tecentriq® in clinical trials for multiple tumor types.

Managing Immune-Related Myocarditis

NCI CTCAE v4	**Myocarditis Grade 1** Asymptomatic with laboratory (e.g., BNP [B-Natriuretic Peptide]) or cardiac imaging abnormalities	**Myocarditis Grade 2** Symptoms with mild to moderate activity or exertion	**Myocarditis Grade 3 or 4** G3: Severe with symptoms at rest or with minimal activity or exertion; intervention indicated G4: Life-threatening consequences; urgent intervention indicated (e.g., continuous IV
Tecentriq® treatment/ other therapy and	Refer patient to cardiologist; initiate treatment as per institutional guidelines.	**Withhold Tecentriq®;** refer patient to cardiologist**,** monitor clinical condition daily **Medical management of myocarditis**	**Permanently discontinue Tecentriq®;** refer patient to cardiologist, monitor clinical condition daily **Aggressive medical management**
Corticosteroids		Methylprednisolone 1-2 mg/kg IV daily or equivalent and convert to 1-2 mg/kg oral prednisone or equivalent per day (once symptoms	Methylprednisolone 1-2 mg/kg IV daily or equivalent and convert to 1- 2 mg/kg oral prednisone or
Follow-up		Reassess every 1-3 days	Reassess daily

		If improves to ≤ Grade 1: Treatment with Tecentriq® may be resumed when myocarditis improves to Grade 0 or Grade 1 within 12 weeks, or symptoms of myocarditis have resolved, and corticosteroids have been reduced	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month
		If recurs: Permanently discontinue Tecentriq® and refer to a cardiologist for additional care.	**If worsens: Consider additional immunosuppressive medications and refer to a cardiologist for additional care.**

Immune-Related Nephritis

- Nephritis has been observed with Tecentriq® treatment
- The most common presentation is asymptomatic increase in serum creatinine level in the absence of alternative etiologies (e.g. prerenal and postrenal causes, and concomitant medications)
- Monitor patients for signs and symptoms below
- Patients should be monitored for changes in renal function

Nephritis

Signs and symptoms

- Increase in serum creatinine
- Decrease in the amount of urine
- Changes in the appearance of urine, including blood in urine
- Fluid retention (e.g., swelling in the extremities or face)
- Hypertension
- Loss of appetite

Rule out infectious and disease-related aetiologies

Nephritis occurred in <0.1% (3/3178) of patients who received Tecentriq®.

Managing Immune-Related Nephritis

NCI CTCAE v5	**Nephritis Grade 2** (Serum creatinine >1.5 - 3.0 x baseline; >1.5 - 3.0 x ULN)	**Nephritis Grade 3-4** G3: (Serum creatinine >3.0 x baseline; >3.0 - 6.0 x ULN) G4: (Serum creatinine >6.0 x ULN)
Tecentriq® treatment and monitoring	**Withhold Tecentriq®; monitor kidney function, including creatinine, closely until resolution; refer patient to renal specialist**	**Permanently discontinue Tecentriq®; monitor kidney function, including creatinine, daily until resolution; refer patient to renal specialist and consider renal biopsy**
Corticosteroids	Prednisone 1-2 mg/kg or equivalent per day	Prednisone 1-2 mg/kg or equivalent per day
Follow-up	Reassess signs and symptoms every 2-3 days	Reassess signs and symptoms daily
	If improves to ≤ Grade 1: Taper corticosteroids over at least 1 month; treatment with Tecentriq® may be resumed if the event improves to ≤ Grade 1 within 12	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month

	weeks and corticosteroids have been reduced to the equivalent of oral prednisone 10 mg daily or less.	
	If no improvement, worsens or recurs: Treat as Grade 3/4	**If no improvement after 48 hr.**: Consider adding additional immunosuppressive medication.

ULN: upper limit of normal.

Immune-Related Myositis

- Myositis has been observed with Tecentriq® treatment
- Myositis or inflammatory myopathies are a group of disorders sharing the common feature of inflammatory muscle injury
- Symptoms may include muscle weakness and/or pain, skin rash (in dermatomyositis), urine with dark brown or reddish color, nausea and vomiting
- Initial diagnosis is based on clinical (muscle weakness, muscle pain, skin rash in dermatomyositis), biochemical (serum creatine kinase increase) and imaging (electromyography/MRI) features and is confirmed with a muscle biopsy
- Monitor patients for signs and symptoms described above

Rule out infectious and disease-related aetiologies

Myositis occurred in 0.4% (12/3178) of patients who received Tecentriq®.

Managing Immune-Related Myositis

NCI CTCAE v5	**Myositis Grade 2-3** G2: Moderate pain associated with weakness; pain limiting instrumental activities of daily living (ADL) G3: Pain associated with severe weakness; limiting self care ADL	**Myositis Grade 4 or 3 recurrent** G3: Pain associated with severe weakness; limiting self care ADL G4: Life-threatening consequences; urgent intervention required
Tecentriq® treatment and monitoring	Withhold Tecentriq®; monitor serum creatinine kinase closely until resolution; refer patient to a rheumatologist or neurologist. **Medical management of myositis.**	Permanently discontinue Tecentriq® for Grade 4 or Grade 3 recurrent myositis; monitor serum creatinine kinase, daily until resolution; refer patient to a rheumatologist or neurologist. Respiratory support may be required for severe cases. **Aggressive medical management of myositis.**
Corticosteroids	Prednisone 1-2 mg/kg or equivalent per day	If severely compromised (e.g., cardiac or respiratory symptoms, that severely limit mobility), initiate corticosteroids equivalent to 1-2 mg/kg/day IV methylprednisolone or higher dose bolus. Upon improvement, convert to prednisone 1-2 mg/kg or equivalent per day.
Follow-up	Reassess signs and symptoms every 2-3 days	Reassess signs and symptoms daily
	If improves to ≤ Grade 1: Taper corticosteroids over at least 1 month; treatment with Tecentriq® may be resumed if the event improves to ≤ Grade 1 within 12 weeks and corticosteroids have been reduced to the equivalent of oral prednisone 10 mg daily or less.	**If improves to ≤ Grade 1**: Taper corticosteroids over at least 1 month
	If no improvement, worsens or recurs: Treat as Grade 4 or Grade 3 recurrent	**If no improvement after 48 hr.**: Consider adding additional immunosuppressive medication.

Infusion-Related Reactions (IRR)

NCI CTCAE v4	IRR Grade 2 (Infusion interruption indicated but responds promptly to symptomatic treatment)	IRR Grade 3-4 G3: (Prolonged; recurrence of symptoms following initial improvement; hospitalization indicated) G4: (Life-threatening consequences; urgent intervention indicated)
Tecentriq® treatment/ other therapy	**Reduce infusion rate or interrupt Tecentriq® infusion;** **Aggressive symptomatic treatment**	**Stop infusion of Tecentriq®;** **Aggressive medical management which may include oral or IV antihistamine, antipyretic, epinephrine, glucocorticoids, bronchodilators and oxygen**
Monitoring (acute event)	Per local Infusion Center IRR protocol	Per local Infusion Center IRR protocol, Evaluation in Emergency Department or Hospital
Corticosteroids	-	As per local medical management of IRR
Follow-up	Reassess per local infusion center protocols and at the end of infusion	Evaluate in Emergency Department or Hospital
	If improves to ≤ Grade 1 The infusion rate at restart should be half of the infusion rate that was in progress at the time of onset of the event; At the next cycle, consider administration of oral premedication with antihistamine and antipyretic	**Permanently discontinue Tecentriq®**
	If no improvement, worsens or recurs: Treat as Grade 3/4	-

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