Alemtuzumab intravenous infusion for adults

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- As each vial costs ~ 7,000euro, **medical staff must be grade SHO or above before handling or administering this product.**
- Check for **contraindications in SPC** which include known or (drug) induced coagulopathies
- **Pre-treatment:** patients should be pre-treated with **corticosteroids** immediately prior to administration of alemtuzumab. - see under dose for further information
- **Post-treatment antimicrobial prophylaxis required:** see further information
- **Ensure the infusion is covered by a light-protective bag** (pharmacy to supply with product whether prepared by PASU or supplied unreconstituted by main pharmacy
- **This product is ordered on a patient-by-patient basis by email to jason.warner@genzyme.com AND customer.services@genzyme.com ONE week in advance of planned admission**
- Treatment should **only be initiated and supervised by a neurologist experienced in the treatment of patients with multiple sclerosis**.
- Alemtuzumab is **not recommended** for patients with inactive disease or those stable on current therapy.
- Facilities to manage hypersensitivity or **anaphylaxis** should be available
- See **'Monitoring requirements' -** monitoring for **48 MONTHS** after last dose
- **Patients** must receive the **Package leaflet**, the **Patient Alert Card** and the **Patient Guide BEFORE STARTING TREATMENT**
- Consider **delaying treatment in patients with active infection,** until the infection is fully controlled

Available preparations

Lemtrada 12mg in 1.2ml vial

Reconstitution

Already in solution

Dilute further prior to administration

Infusion fluids

Sodium chloride 0.9% or Glucose 5%

Methods of intravenous administration

Intermittent intravenous infusion

- **Gloves, protective eyewear and a mask** should be worn by those handling this drug (ref 1)
- Do not shake the vials prior to use

- Add 12mg (1.2ml) injection solution to 100ml infusion fluid
- Invert the bag gently to mix the solution
- **Start infusion at 10ml/hour and increase by 5ml/hour every thirty minutes, up to a maximum of 25ml/hour if tolerated** (ref 3)
- Total infusion over a **minimum** of 4 hours, and **maximum** 8 hours (ref 3)
- Once infusion is complete, it is important to ensure residual drug in the giving set is flushed through- attach a 50ml bag of Sodium chloride 0.9% and run at the previously tolerated flow rate
- Needs light protection during administration- see under important information

Dose in adults

Pre-treatment

- Patients should be pre-treated with **corticosteroids immediately prior** to administration on each of the first three days of any treatment course
- Suggested dose: **Methylprednisolone 1g IV daily just before alemtuzumab Days 1-3 only**
- Consider antihistamine and/or antipyretics if necessary

Alemtuzumab dose

- Initial treatment course: 12mg daily for **five consecutive** days (60mg total dose)
- Second treatment course (12 months after initial treatment course) 12mg daily for **three consecutive** days (36mg total dose)

Post-treatment

- Patients should be given oral prophylaxis for herpes infections, starting on the first day of each treatment course and continuing for at least one month after
- Suggested dose: **Aciclovir 200mg bd po**
- Patients should be **given co-trimoxazole 960mg three times per week** for one month after each cycle of alemtuzumab (i.e. same schedule as aciclovir) (ref 2)

Monitoring

- **Infusion associated reactions (IARs):** Observe for IARs during and for two hours after infusion is finished. IARs may occur despite pre-treatment
- Monitor blood pressure, pulse, respiration and temperature as follows: (ref 3)
- **Every 15 minutes** for the **first 30 minutes**
- Then **every 30 minutes** during the infusion
- Then **hourly** for **two hours post infusion**
- If an IAR occurs, provide the appropriate symptomatic treatment, as needed. If the infusion is **not well tolerated,** the infusion time may be increased. If **severe IARs** occur, immediate discontinuation of the infusion should be considered. Refer to Q-Pulse CLN-NM-0118 for further information.
- The following monitoring requirements have been recently recommended (ref 4)
- Vital signs should be monitored before and during the intravenous infusion. If clinically significant changes are observed, discontinuation of infusion and additional monitoring, including ECG, should be considered
- Monitor LFTs. If patients develop signs of liver damage, unexplained liver enzyme elevations or symptoms suggestive of hepatic dysfunction (e.g. unexplained nausea, vomiting, abdominal pain, fatigue, anorexia, jaundice or dark urine), alemtuzumab should only be re-administered following careful consideration.
- Patients who develop signs of pathological immune activation should be evaluated immediately, and a diagnosis of haemophagocytic lymphohistiocytosis considered. Symptoms of immune activation may

occur up to 4 years after the start of treatment.

Monitor	Details
Urinalysis with microscopy	Prior to initiation of treatment and at **monthly intervals for 48 MONTHS after the last infusion**
Serum creatinine	Prior to initiation of treatment and at **monthly intervals for 48 MONTHS after the last infusion**
FBC (platelets particularly)	Prior to initiation of treatment and at **monthly intervals for 48 MONTHS after the last infusion**
Liver function tests	Prior to initiation of treatment and at **monthly intervals for 48 MONTHS after the last infusion**
Thyroid function tests	Prior to initiation of treatment and at **THREE monthly intervals for 48 MONTHS after the last infusion**

Storage

- Store between 2 and 8^{0}C
- Do not freeze
- **Pharmacy** to store in fridge, individually by patient **name and date ordered**

References

SPC 26th August 2021
1: Clinical Oncology Society of Australia. Position statement: safe handling of monoclonal antibodies in healthcare settings September 2013
2: Guidance on the prevention of Listeria infection after alemtuzumab treatment of multiple sclerosis. Â Alasdair Coles 15th May 2017
3: Local guidelines: Alemtuzumab for Multiple Sclerosis UHG-Neuro-ms-Lemtrada1 Dr M Hennessy March 2015
4. EMA, April 12th 2019. Use of multiple sclerosis medicine Lemtrada restricted while EMA review is ongoing

Therapeutic classification

Monoclonal antibody

BNF
immune system disorders and transplantation