Multiple Sclerosis Trust
information, education, research and support

A to Z of MS

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A to Z of MS Alemtuzumab (Lemtrada)

Alemtuzumab is a disease modifying drug for relapsing remitting MS.

Alemtuzumab was approved for use on the NHS in 2014. The drug can be prescribed for adults with active relapsing remitting MS (generally defined as having two relapses which have had a substantial effect on health or daily life in the last two years).

In clinical trials, alemtuzumab reduced the number of relapses by approximately 70%. Relapse severity was also reduced. Alemtuzumab may also slow down the build-up of disability associated with MS.

Product names

Lemtrada - previously known as Campath.

How is alemtuzumab taken?

Alemtuzumab is taken as two treatment courses of intravenous (iv) infusions.

- the first course consists of iv infusions on five consecutive days
- the second course is taken 12 months later and consists of iv infusions on three consecutive days

Side effects and contraindications

Three serious side effects have been reported from clinical trials.

- overactive or underactive thyroid gland leading to thyroid disorders, affecting approximately 1 in 5 people
- idiopathic thrombocytopenic purpura (ITP), a serious disorder which prevents blood from clotting, affecting about 1 in 100 people.
- kidney problems

Although potentially serious, these side effects are treatable if caught early enough.

Flu-like symptoms after infusion were reported. As alemtuzumab works by suppressing the immune system, anyone on treatment will be more vulnerable to infections such as colds and viruses for some time after the infusion.

How alemtuzumab works

Alemtuzumab works by binding to and killing immune cells (lymphocytes or white blood cells) which are involved when the immune system attacks myelin. It is thought that the cells which grow back after treatment do not cause damage to nerves.

Alemtuzumab research

compared to placebo. Relapse severity was also reduced.

Alemtuzumab may also slow down the build-up of disability associated with MS; in one study (CARE-MS II) which measured disability over a two year period, people taking alemtuzumab were less likely to experience worsening of their disability compared to those taking beta interferon; this was not seen in a second study (CARE- MS I).

- **CARE-MS I**

  CARE-MS I was a two year trial that compared alemtuzumab and interferon beta 1a in 581 people in the first few years after diagnosis with relapsing remitting MS who had not had other disease modifying treatments.

  Alemtuzumab reduced relapses by 55% compared to interferon beta 1a over the two years of the trial. 78% of people in the alemtuzumab group didn't have a relapse during the two years of the trial compared with 59% of the interferon group. There was no significant difference in disease progression between the two groups; 8% of the alemtuzumab group and 11% of interferon beta group showing a worsening in their EDSS score.

- **CARE-MS II**

  CARE-MS II was a two year trial that looked at 667 people who had continued to have relapses despite treatment with beta interferon.

  The relapse rate of those on alemtuzumab was reduced by 49% compared to those on beta interferon 1a (Rebif), 65% of people in the alemtuzumab group didn't have a relapse during the two years of the trial compared with 49% of the interferon group. The risk of disease progression was also reduced by 42% compared to beta interferon, with 20% of the interferon group showing sustained accumulation of disability compared to 13% of the alemtuzumab group.

- **Prevention of autoimmunity after alemtuzumab treatment (CAM-THY)**

  Alemtuzumab works by binding to and killing T-cells (lymphocytes). 1 in 5 people develop an autoimmune disease after treatment; as their immune system grows back, it begins to attack other parts of their body, most commonly the thyroid gland.

  This trial will attempt to reduce the risk of autoimmune disease after treatment with alemtuzumab by combining it with a second drug which alters the way in which the immune system grows back. Palifermin works by boosting the function of the thymus, a gland in the neck which makes new immune cells.
  Estimated completion date October 2017.
  Further details of this study.

References

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Read abstract

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Read abstract

Keratinocyte growth factor to prevent autoimmunity after alemtuzumab treatment of multiple sclerosis (CAM-THY).
Further details of this study.

Patient Information Leaflet

Lemtrada (EMC website)

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