Health Technology Briefing
November 2023

Golimumab for treating moderately to severely active ulcerative colitis in children aged 2 to 17 years

Company/Developer	Janssen-Cilag Ltd

☐ New Active Substance ☒ Significant Licence Extension (SLE)

NIHRIO ID: 26526	NICE ID: Not Available	UKPS ID: 671137

Licensing and Market Availability Plans

Currently in phase III clinical development.

Summary

Golimumab is currently in clinical development for the treatment of moderately to severely active ulcerative colitis (UC) among paediatric patients aged 2 to 17 years. UC is a long-term condition where the colon and rectum become inflamed and small ulcers can develop on the colon's lining, which may bleed and produce pus. Symptoms of UC include recurring diarrhoea, which may contain blood, mucus or pus, stomach pain, needing to frequently empty bowels, fatigue, loss of appetite and weight loss. The exact cause of UC is unknown, although it is thought to be the result of a problem with the immune system. Treatment options for paediatric UC remain limited and current modes of administration may be inconvenient for some patients.

Golimumab is a type of protein (monoclonal antibody) that is administered by subcutaneous injection. Golimumab works by blocking the activity of a protein in the body, known as tumour necrosis factor-alpha, to reduce immune-mediated inflammation. If licensed, golimumab will offer an additional treatment option for moderately to severely active ulcerative colitis among paediatric patients.

Proposed Indication

Treatment of moderately to severely active ulcerative colitis (UC) among paediatric patients aged 2 to 17 years.[1]

Technology

Description

Golimumab (Simponi) is a human monoclonal antibody that is administered subcutaneously. It forms high affinity, stable complexes with both the soluble and transmembrane bioactive forms of human tumour necrosis factor-alpha (TNF-α), which prevents the binding of TNF-α to its receptors.[2] TNF-α is a chemical messenger that plays an important role in the pathogenesis of immune-mediated inflammatory disorders such as UC and is involved in inducing the production of other pro-inflammatory cytokines such as interleukin (IL)-1 and IL-6.[3]

In the phase III clinical trial (NCT03596645), patients were administered golimumab subcutaneously, with dosage based on individual body surface area, for 50 weeks.[1]

Key Innovation

TNF-α antagonists have shown efficacy in providing symptom relief among patients with UC. The selective blockade of TNF-α activity enhances immune response and reduces inflammation.[3] However, current treatment options for paediatric UC are limited and despite their effectiveness, require frequent dose administration (intravenously) in a clinic or hospital setting, which may be inconvenient for some patients. A previous clinical study showed that golimumab induction and short-term maintenance treatment up to week 14 was generally well-tolerated among paediatric UC patients and consistent with safety reported in other paediatric inflammatory bowel disease studies.[4] If licensed, golimumab could offer a potentially effective and more convenient treatment option for paediatric patients with moderately to severely active UC.

Regulatory & Development Status

Golimumab currently has Marketing Authorisation the UK for the following indications:[2]

- Rheumatoid arthritis
- Psoriatic arthritis
- Axial spondylarthritis
- Ulcerative colitis (adults)

Golimumab is in phase II and III clinical development for other indications such as:[5]

- Crohn's disease
- Prostate adenocarcinoma

Patient Group

Disease Area and Clinical Need

UC is one of two major types of inflammatory bowel disease (IBD), the other condition being Crohn's disease.[6] UC is the most common type of IBD. It is a long-term condition where the colon and rectum become inflamed and small ulcers can develop on the colon's lining, which can bleed and produce pus. Some people may go for weeks or months with very mild symptoms, or none, known as remission, followed

by periods where the symptoms are particularly troublesome, known as flare-ups or relapses. Symptoms of UC include recurring diarrhoea, which may contain blood, mucus or pus, stomach pain, needing to frequently empty bowels, fatigue, loss of appetite and weight loss.[7,8] The exact cause of UC is unknown, although it is thought to be the result of a problem with the immune system. Many experts believe UC is the result of an autoimmune condition whereby the immune system mistakes bacteria in the colon which aids digestion, for a harmful infection. This causes the immune system to attack healthy tissue and leads to the colon and rectum becoming inflamed.[9] It is also believed that inherited genes are a factor in the development of UC, and certain environmental factors such as viral and bacterial infection, air pollution, medication and diet may be potential triggers.[6,9]

UC affects males and females at approximately equal rates. The incidence of paediatric-onset UC, which represents about 15–20% of all UC cases, ranges from 1–4 per 100,000 per year in most North American and European regions.[10] In England, 2022-23, when considering all patients and not specifically paediatrics, there were 139,419 finished consultant episodes (FCEs) and 127,198 admissions for UC (ICD-10 code K51) which resulted in 83,684 FCE bed days and 115,015 day cases.[11]

Recommended Treatment Options

Treatment is focussed on treating active disease to manage symptoms and to induce and maintain remission. The National Institute for Health and Care Excellence (NICE) recommends the following:[12]

- topical or oral aminosalicylates for acute mild-to-moderate UC
- topical or oral corticosteroid for children whom aminosalicylates are unsuitable in mild-to-moderate UC
- intravenous corticosteroids (e.g. hydrocortisone or methylprednisolone) in acute severe UC
- if intravenous corticosteroids show little or no improvement within 72 hours children over 6 years can be provided with infliximab

If the disease does not adequately respond to oral corticosteroids (beclometasone, budesonide, hydrocortisone, or prednisolone) then an immunosuppressant (such as mercaptopurine or azathioprine) may be considered.[13]

Clinical Trial Information

Trial	PURSUIT 2, **NCT03596645**, **EudraCT 2017-004496-31**; A Phase 3 Randomized, Open-Label Study to Assess the Efficacy, Safety, and Pharmacokinetics of Golimumab Treatment, a Human Anti-TNFα Monoclonal Antibody, Administered Subcutaneously in Pediatric Participants With Moderately to Severely Active Ulcerative Colitis **Phase III-** Active, not recruiting **Location(s):** 6 EU countries, USA, and other countries **Primary completion date:** June 2024
Trial Design	Randomised, parallel assignment, open label
Population	N=84 (actual); children (2 to 17 years old); moderately to severely active UC and must either be currently receiving treatment with, or have a history of having failed to respond to, or have a medical contraindication to at least 1 of the following therapies: oral or intravenous corticosteroids, 6-mercaptopurine, methotrexate or azathioprine OR must either have or have had a history of

	corticosteroid dependency OR required more than 3 courses of corticosteroids in the past year
Intervention(s)	Golimumab subcutaneous through week 50, dose is based on body surface area
Comparator(s)	Infliximab intravenous through week 46, dose is based on body weight
Outcome(s)	Primary outcome measure: • Clinical Remission at Week 6 as Assessed by the Mayo Score [Time Frame: At Week 6] See trial record for full list of other outcomes
Results (efficacy)	-
Results (safety)	-

Estimated Cost

The NHS indicative price for a single golimumab 100 mg/ml pre-filled disposable injection is £1,525.94.[14]

Relevant Guidance

NICE Guidance

- NICE technology appraisal. Infliximab, adalimumab and golimumab for treating moderately to severely active ulcerative colitis after the failure of conventional therapy (TA329). February 2015.
- NICE guideline. Ulcerative colitis: management (NG130). May 2019.

NHS England (Policy/Commissioning) Guidance

No relevant guidance identified.

Other Guidance

- NHS University Hospitals of Leicester. Management of acute severe ulcerative colitis in children. 2021.[15]
- Clinical Medicine Journal. Ulcerative colitis: management in adults, children and young people – concise guidance. 2017.[16]

Additional Information

References

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