Health Technology Briefing
November 2021

Secukinumab for hidradenitis suppurativa

Company/Developer	Novartis Pharmaceuticals UK Ltd

☐ New Active Substance ☒ Significant Licence Extension (SLE)

NIHRIO ID: 26988	NICE ID: 10534	UKPS ID: 652257

Licensing and Market Availability Plans

Currently in phase III clinical trials.

Summary

Secukinumab is in clinical development for adult patients with moderate to severe hidradenitis suppurativa (HS). HS is a painful, long term skin condition that causes abscesses and scarring on the skin. The exact cause of HS is unknown, but it occurs near hair follicles where there are sweat glands, usually around the groin, bottom, breasts and armpits. Mild to moderate HS has been successfully treated with oral antibiotics, topical therapy, and lifestyle modifications. However, moderate to severe HS is known to be unresponsive to normal treatments. Surgery is an option for severe HS, but it can cause problems for the patient and the disease may still return. There is a need for safe and effective treatments for patients with moderate to severe HS.

Secukinumab is a monoclonal antibody, a type of protein, designed to recognise and attach to a messenger molecule in the immune system called interleukin 17A (IL-17A). IL-17A is part of the inflammation processes and by attaching to and blocking the action of IL-17A, secukinumab could potentially reduce the symptoms associated with inflammation in HS. If licensed, secukinumab will offer an additional treatment option for adults with moderate to severe HS.

Proposed Indication

This briefing reflects the evidence available at the time of writing and a limited literature search. It is not intended to be a definitive statement on the safety, efficacy or effectiveness of the health technology covered and should not be used for commercial purposes or commissioning without additional information. A version of the briefing was sent to the company for a factual accuracy check. The company was available to comment.
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Adult patients with moderate to severe hidradenitis suppurativa (HS).[1]

Technology

Description

Secukinumab (Cosentyx, AIN457) is a fully human IgG1/κ monoclonal antibody that selectively binds to and neutralises the proinflammatory cytokine interleukin-17A (IL-17A). IL-17A is a naturally occurring cytokine that is involved in normal inflammatory and immune responses. Secukinumab works by targeting IL-17A and inhibiting its interaction with the IL-17 receptor, which is expressed on various cell types including keratinocytes. As a result, secukinumab inhibits the release of proinflammatory cytokines, chemokines and mediators of tissue damage and reduces IL-17A-mediated contributions to autoimmune and inflammatory diseases. Clinically relevant levels of secukinumab reach the skin and reduce local inflammatory markers. It is hypothesized that by reducing circulating IL-17A, anti–IL-17A biologics such as secukinumab may also treat HS.[2,3]

In the phase III clinical trials (NCT03713619, NCT03713632), secukinumab 300mg is administered by subcutaneous (SC) injection once every two weeks or once every four weeks.[1,4]

Key Innovation

Secukinumab has high selectivity for IL-17.[5] Increased IL-17 serum concentrations has been seen in patients with HS as well as a significantly increased number of IL-17–producing cells in lesional and in perilesional HS skin compared with healthy subjects.[6] Therefore, IL-17 pathway may play a key role in HS pathogenesis. In case studies, treatment with secukinumab has improved symptoms and quality of life in patients with HS.[7,8]

If licensed, secukinumab will offer additional treatment option for adults with moderate to severe hidradenitis suppurativa.

Regulatory & Development Status

Secukinumab is has a marketing authorisation in the UK for the following therapeutic indications in adults:[2]

- Moderate to severe plaque psoriasis
- Alone or in combination with methotrexate (MTX) for the treatment of psoriatic arthritis
- Active ankylosing spondylitis in adults who have responded inadequately to conventional therapy
- Active non-radiographic axial spondyloarthritis with objective signs of inflammation as indicated by elevated C-reactive protein (CRP) and/or magnetic resonance imaging (MRI) evidence that respond inadequately to non-steroidal anti-inflammatory drugs (NSAIDs)

Secukinumab is also indicated for the treatment of moderate to severe plaque psoriasis in children and adolescents from the age of 6 years who are candidates for systemic therapy.[2,9]

Secukinumab is currently in phase III trials for several indications including the following:[10]

- Lupus nephritis
- Giant cell arteritis
- Thyroid eye disease

Secukinumab is currently in phase II trials for lichen planus:[11]

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Patient Group

Disease Area and Clinical Need

HS is a painful, long term skin condition that causes abscesses and scarring on the skin. It ranges from mild to severe forms, but it can be progressive in some people.[12] It is characterised by recurrent inflamed nodules and abscesses, which may form fistulas, leak pus and cause scarring. HS can have a considerable impact on patients' daily lives, their work/school attendance, physical activities, and emotional state.[13] The exact cause of HS is unknown, but it occurs near hair follicles where there are sweat glands, usually around the groin, bottom, breasts and armpits. The abscesses may also spread to the nape of the neck, waistband and inner thighs. Some of the lumps may become infected with bacteria, causing a secondary infection that will need to be treated with antibiotics.[12] Smoking and obesity are both strongly associated with HS. HS usually starts around puberty, which may suggest that the sex hormones play a part, but it can occur at any age. In rare cases, HS may be linked to Crohn's disease, particularly if it develops around the groin area and the skin near the anus.[12]

HS is estimated to affect about 1% of the population in any one year, and is 2 to 5 times more common in women than men.[12] One 2018 UK-wide study estimated it to be 0.77%, rising to 1.19% if 'probable' cases were included.[14] Applying the 0.77% estimate to the most recent UK population estimates would equate to there being 459,841 people in England and Wales with HS.[15]

Recommended Treatment Options

Treatment for HS is variable and tailored towards the individual patient. In the early stages, the medical management of HS is a combination of analgesics, antiseptic washes, steroid injections, topical and oral antibiotics with escalation to retinoids, dapsone and immunomodulators if there is a lack of response. Surgery may be required in severe or persistent cases. Surgical procedures range from incision and drainage to extensive excisions with a requirement of skin grafts or flaps. Additional treatment options include radiotherapy, photodynamic therapy and laser therapy. NICE recommends adalimumab for treating active moderate to severe HS in adults whose disease has not responded to conventional systemic therapy.[16,17]

Clinical Trial Information

Trial	**SUNRISE, CAIN457M2302,** NCT03713632**;** A Randomized, Double-blind, Multicenter Study Assessing Short (16 Weeks) and Long-term Efficacy (up to 1 Year), Safety, and Tolerability of 2 Subcutaneous Secukinumab Dose Regimens in Adult Patients With Moderate to Severe Hidradenitis Suppurativa (SUNRISE) **Phase III -** Active, not recruiting **Location(s):** 16 EU countries, United Kingdom, Canada, United States and other countries. **Study completion date:** August 2022
Trial Design	Randomized, parallel assignment, double-blind
Population	N = 544, moderate to severe HS, aged 18 years and older
Intervention(s)	Active Comparator: • Secukinumab 300mg every 2 weeks • Secukinumab 300mg every 4 weeks

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Comparator(s)	Placebo Comparator: • Placebo 300mg every 2 weeks • Placebo 300mg every 4 weeks
Outcome(s)	Primary outcome; • Proportion of patients with Hidradenitis Suppurativa Clinical Response (HiSCR) [Time frame: 16 weeks] See trial record for full list of other outcomes.
Results (efficacy)	-
Results (safety)	-

Trial	**SUNSHINE, CAIN457M2301,** NCT03713619**;** A Randomized, Double-blind, Multi-center Study Assessing Short (16 Weeks) and Long-term Efficacy (up to 1 Year), Safety, and Tolerability of 2 Subcutaneous Secukinumab Dose Regimens in Adult Patients With Moderate to Severe Hidradenitis Suppurativa (SUNSHINE). **Phase III** - Active, not recruiting **Location(s):** 15 EU countries, United Kingdom, Canada, United States and other countries. **Study completion date:** August 2022
Trial Design	Randomised, parallel assignment, double-blind
Population	N = 544, moderate to severe HS, aged 18 years or older
Intervention(s)	Active Comparator: • Secukinumab 300mg every 2 weeks • Secukinumab 300mg every 4 weeks
Comparator(s)	Placebo Comparator: • Placebo 300mg every 2 weeks • Placebo 300mg every 4 weeks
Outcome(s)	Primary outcomes; • Proportion of participants with HiSCR [Time frame: 16 weeks] See trial record for full list of other outcomes
Results (efficacy)	-
Results (safety)	-

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Trial	**CAIN457M2301E1,** NCT04179175; A Multicenter, Double-blind, Randomized Withdrawal Extension Study of Subcutaneous Secukinumab to Demonstrate Long-term Efficacy, Safety and Tolerability in Subjects With Moderate to Severe Hidradenitis Suppurativa **Phase III -** Recruiting **Location(s):** 16 EU countries, United Kingdom, Canada, United States and other countries. **Primary completion date:** June 2023
Trial Design	Randomized, parallel assignment, double-blind, extension study
Population	N = 856, must have completed the study treatment period (52 weeks) in the core studies (AIN457M2301 or AIN457M2302), aged 18 years and older
Intervention(s)	HiSCR responder in core trial: • Secukinumab 300mg every 2 weeks • Secukinumab 300mg every 4 weeks Non-responder to core trial treatment: • Secukinumab 300mg every 2 weeks
Comparator(s)	Placebo Comparator: • Placebo 300mg every 2 weeks • Placebo 300mg every 4 weeks
Outcome(s)	Primary outcome; • Time to loss of response (LOR) in HiSCR responders [Time frame: Weeks 52 - 104] See trial record for full list of other outcomes.
Results (efficacy)	-
Results (safety)	-

Estimated Cost

The NHS indicative price of 1 pre-filled disposable pen of secukinumab 300mg/2ml solution for injections £1218.78.[18]

Relevant Guidance

NICE Guidance

- NICE technology appraisal. Adalimumab for treating moderate to severe hidradenitis suppurativa (TA392). June 2016.

NHS England (Policy/Commissioning) Guidance

- NHS England. 2013/14 NHS Standard Contract for Specialised Dermatology Services (All Ages). A12/S/a.

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- NHS England. Clinical Commissioning Policy: Infliximab for the treatment of hidradenitis suppurativa. 16018/P. July 2016.

Other Guidance

- Journal of the American Academy of Dermatology. North American clinical management guidelines for hidradenitis suppurativa: A publication from the United States and Canadian Hidradenitis Suppurativa Foundations. 2019.[19]
- British Association of Dermatologists. Guidelines for the management of hidradenitis suppurativa (acne inversa). 2018.[17]

Additional Information

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