NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Sirolimus for treating facial angiofibroma from tuberous sclerosis complex in people 6 years and older [ID3990]

Final scope

Remit/evaluation objective

To appraise the clinical and cost effectiveness of sirolimus within its marketing authorisation for treating facial angiofibroma from tuberous sclerosis complex in people 6 years and older.

Background

Tuberous sclerosis or tuberous sclerosis complex is a rare genetic condition that causes mainly non-cancerous (benign) tumours to develop in different parts of the body. The tumours most often affect the brain, kidneys, heart, lungs, eyes and skin. Two disease causing genes have been identified: TSC1 and TSC2. Tuberous sclerosis complex is present from birth, although symptoms may not appear immediately. People with tuberous sclerosis complex present at different ages with a variety of clinical manifestations. The effect of tuberous sclerosis complex on the skin can cause small facial bumps known as angiofibromas, consisting of blood vessels and fibrous tissue. Facial angiofibromas are considered one of the key diagnostic criteria for tuberous sclerosis complex.[1] They generally occur centrally on the face as clusters of pink, red or brown lesions, especially focused on the nose and cheeks. These can cause recurrent bleeding, irritation and infection, eventually leading to facial scarring and disfigurement. This can negatively impact quality of life, affecting psychological and psychosocial wellbeing. Facial angiofibromas normally appear at around the age of 3 to 5 and increase in size and number over a person's life. The severity of the condition varies amongst individuals, and, in rare cases, lesions may become large enough to block vision or breathing through the nose. Around a quarter of people with tuberous sclerosis complex inherit the disease from at least one parent.[2]

The estimated number of people with tuberous sclerosis complex in the UK is between 3,700 and 11,000.[3] Facial angiofibromas are estimated to occur in 70 to 80% of people with the condition.[4]

There is no cure for tuberous sclerosis complex and no NICE guidelines for treating the associated facial angiofibroma. In many people, facial angiofibroma lesions pose no significant morbidity, and treatment is not needed. However, in people where the condition significantly affects quality of life, the primary intervention is off-label topical sirolimus (tablet formulation).[5] If treatment is ineffective, vascular or ablative lasers may be used. Other techniques such as photodynamic (light) therapy, surgical excision, dermabrasion ("exfoliation"), or cryosurgery ("freezing") may also be used. Non-pharmaceutical interventions are ineffective, often painful and may result in permanent scarring.[4,6]

The technology

Sirolimus (Hyftor, Plusultra) is indicated for the treatment of facial angiofibroma associated with tuberous sclerosis complex in adults and children aged 6 years and older.

Intervention(s)	Sirolimus gel
Population(s)	People aged 6 and older with facial angiofibroma associated with tuberous sclerosis complex
Subgroups	If the evidence allows the following subgroups will be considered: • age (adults and children)
Comparators	Established clinical management including, but not limited to: • vascular or ablative lasers • photodynamic therapy • surgical excision • dermabrasion • cryosurgery
Outcomes	The outcome measures to be considered include: • improvements in facial angiofibroma (including number, size and redness) • adverse effects of treatment • health-related quality of life.
Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.
Related NICE recommendations	None
Related National Policy	The NHS Long Term Plan, 2019. NHS Long Term Plan NHS England (2018) NHS manual for prescribed specialist services (2018/2019) Tuberous Sclerosis Association (2019) UK guidelines for managing tuberous sclerosis complex: A summary for clinicians in the NHS

References

1. Northrup H, Aronow ME, Bebin EM, et al. (2021) Updated international tuberous sclerosis complex diagnostic criteria and surveillance and management recommendations. Pediatric Neurology 123:50-66.

2. Caban C, Khan N, Hasbani DM, et al. (2016) Genetics of tuberous sclerosis complex: implications for clinical practice. The Application of Clinical Genetics 10:1-8.

3.Tuberous Sclerosis Association (2022) What is TSC? Accessed November 2023.

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5. Amin S, Lux A, Khan A, et al. (2017) Sirolimus Ointment for Facial Angiofibromas in Individuals with Tuberous Sclerosis Complex. International Scholarly Research Notices 8404378.

6. TSC Alliance (2013) About TSC. Accessed November 2023.