

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Single Technology Appraisal

**Vismodegib for treating basal cell carcinoma
Final scope**

Remit/appraisal objective

To appraise the clinical and cost effectiveness of vismodegib within its marketing authorisation for treating basal cell carcinoma.

Background

Basal cell carcinoma (BCC) is a non-melanoma form of skin cancer that develops in the deep basal cell layer of the epidermis around the hair follicle. It can occur anywhere on the body, but is most common in areas that are exposed to the sun, such as the face, head, neck and ears as well as areas where burns, scars or ulcers have damaged the skin^{1,2}. It can also develop at multiple sites simultaneously. BCC can be cured in most cases and seldom spreads to other parts of the body, although if left untreated for prolonged periods, it can become locally advanced or metastasise, that is, the tumours can grow into deeper layers and affect other tissues such as cartilage and bone.

BCC is the most common type of skin cancer in the UK with around 75% of non-melanoma skin cancers being BCC¹. It is a slow-growing, locally invasive, malignant epidermal skin tumour predominantly affecting fair skinned adults. People with Gorlin syndrome also have an increased risk of developing BCCs with around 90% developing cancers at multiple sites. Although it is the most common malignancy worldwide, it is very difficult to estimate the incidence and prevalence of BCC because cases typically have been designated as non-melanoma skin cancers, which include both basal cell and squamous cell skin cancers, and these cases, unlike melanoma, are not required to be reported to cancer registries. Furthermore, there is no standardized staging system for BCC. As a result, the epidemiology and natural history of advanced BCC have been poorly described.

Around 98,400 cases of non-melanoma skin cancer were registered in 2011 in the UK; registration however is incomplete with an estimated 30-50% of BCC going unreported². Based on published data the incidence of metastatic BCC is believed to be significantly lower than 0.1% of cases of BCC³. Deaths from BCC are very rare.

The main treatment for basal cell carcinoma is surgery and treatment is successful in over 90% of cases¹. However, in cases where surgery is not an appropriate option or the cancer has metastasised, radiotherapy is commonly used. Where surgery or radiotherapy are both not considered viable options, there are no active treatments available and best supportive care remains the only option. Vismodegib has been available on the Cancer Drugs Fund for

locally advanced or metastatic BCC where surgery is not an option, and patients must have had radiotherapy unless it was not possible.

The technology

Vismodegib (Erivedge, Roche) is an oral antagonist of the Smo protein involved in activating the Hedgehog signalling pathway that plays a critical role in the development and homeostasis of many organs and tissues. It is administered orally.

Vismodegib has a marketing authorisation in the UK for treatment of adult patients with symptomatic metastatic basal cell carcinoma and locally advanced basal cell carcinoma inappropriate for surgery or radiotherapy. It has been studied in clinical trials in people with locally advanced or metastatic basal cell carcinoma and has mainly been investigated in dose ranging studies without an active comparator.

Intervention(s)	Vismodegib
Population(s)	People with: <ul style="list-style-type: none"> • symptomatic metastatic basal cell carcinoma or • locally advanced basal cell carcinoma for whom surgery or radiotherapy is not appropriate
Comparators	<ul style="list-style-type: none"> • Best supportive care
Outcomes	The outcome measures to be considered include: <ul style="list-style-type: none"> • progression-free survival • overall survival • response rate • adverse effects of treatment • health-related quality of life.
Economic analysis	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>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.</p> <p>Costs will be considered from an NHS and Personal Social Services perspective.</p>

<p>Other considerations</p>	<p>If the evidence allows the following subgroup will be considered.</p> <ul style="list-style-type: none"> patients with Gorlin syndrome <p>For this subgroup, an additional outcome measure of prevention of new lesions should be included.</p> <p>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.</p>
<p>Related NICE recommendations and NICE Pathways</p>	<p>Related Technology Appraisals: None</p> <p>Related Interventional Procedures: Interventional Procedures Guidance No. 478, 2014, 'Electrochemotherapy for primary basal cell carcinoma and primary squamous cell carcinoma'. Interventional Procedures Guidance No. 446, 2013, 'Electrochemotherapy for metastases in the skin from tumours of non-skin origin and melanoma'.</p> <p>Related Guidelines: NICE cancer service guidance CSG8,2010,'Improving outcomes for people with skin tumours including melanoma'</p> <p>Related Quality Standards: Skin cancer (including melanoma). Published: September 2016 https://www.nice.org.uk/guidance/qs130/resources/skin-cancer-75545412324037</p> <p>Related NICE Pathways: NICE Pathway: Skin cancer, Pathway created: 2015 https://pathways.nice.org.uk/pathways/skin-cancer</p>
<p>Related National Policy</p>	<p>Department of Health (2016) NHS outcomes framework 2016 to 2017</p> <p>Independent Cancer Taskforce (2015) Achieving world-class cancer outcomes: a strategy for England 2015-2020</p> <p>NHS England (2016) Manual for prescribed specialised services 16/17. Specialist cancer services (adults) 105</p>

	<p>(page 228) https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2016/06/pss-manual-may16.pdf</p> <p>NHS England (2013) National cancer drug fund prioritisation scores: vismodegib for patients with advanced basal cell carcinoma (aBCC) who are no longer appropriate for any other treatment options</p> <p>National service framework: Cancer research and treatment, 2016 https://www.gov.uk/government/policies/cancer-research-and-treatment</p>
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References

1. NHS Choices (2014) Skin cancer (non-melanoma). Accessed July 2016.
2. Cancer Research UK, Skin cancer incidence statistics. Accessed July 2016.
3. European Medicines Agency (2013) European Public Assessment Report. Section 2, p. 6.