

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Appraisal

Nivolumab for previously treated hepatocellular carcinoma

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of nivolumab within its marketing authorisation for treating hepatocellular carcinoma.

Background

Hepatocellular carcinoma (HCC) is the most common form of liver cancer in England, accounting for 55% of primary liver cancer diagnoses in men and 28% of diagnoses in women¹. It is commonly associated with cirrhosis (scarring of the liver), which can be caused by excessive alcohol intake, viral infections such as hepatitis B or C, or other diseases that result in chronic inflammation of the liver². There were 2,374 people diagnosed with HCC in England in 2014³. The risk of developing HCC is higher in men than in women and the risk increases with age, with the average age of development of HCC at 66 years².

Treatment for HCC depends on the location and stage of the cancer, and how well the liver function is preserved. Early stage hepatocellular carcinoma may be treated with surgery (hepatic resection or liver transplantation), or percutaneous radiofrequency or thermal ablation to cure the disease. However, treatment is palliative rather than curative for many people. Other treatment options include interventional procedures such as transarterial chemoembolisation and selective internal radiation therapy, external beam radiotherapy, systemic chemotherapy and targeted therapies such as sorafenib. Sorafenib is not recommended as an option for treating advanced hepatocellular carcinoma in NICE's technology appraisal guidance for sorafenib for the treatment of advanced hepatocellular carcinoma ([TA189](#)). Sorafenib has been available in the Cancer Drugs Fund (CDF)⁴. At the time this scope was written it was undergoing a CDF reconsideration appraisal at NICE. Some people with HCC are treated with best supportive care.

The technology

Nivolumab (Opdivo, Bristol-Myers Squibb) is a human, monoclonal IgG4 antibody. It inhibits PD-1, therefore blocking a signal that would have prevented activated T cells from attacking the cancer, thereby preventing the proliferation of cancer cells. It is administered by intravenous infusion.

Nivolumab does not currently have a marketing authorisation in the UK for hepatocellular carcinoma. It has been studied in a clinical trial in adults with advanced hepatocellular carcinoma in whom surgical or locoregional therapies had failed or were not suitable. The majority of people in the trial had received prior systemic treatment with sorafenib.

Intervention(s)	Nivolumab
Population(s)	Adults with previously treated hepatocellular carcinoma
Comparators	Best supportive care
Outcomes	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> • overall survival • progression free survival • time to disease progression • response rate, duration of response, time to response • 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>
Other considerations	<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>
Related NICE recommendations and NICE Pathways	<p>Related Technology Appraisals:</p> <p>'Sorafenib for the treatment of advanced hepatocellular carcinoma' (2010). NICE Technology Appraisal 189. Published May 2010.</p> <p>Appraisals in development:</p> <p>'Hepatocellular carcinoma (advanced and metastatic) - sorafenib (first line) (review of TA189)' NICE technology appraisals guidance [ID1012]. Expected publication date to be confirmed</p> <p>'Regorafenib for previously treated unresectable hepatocellular carcinoma' NICE technology appraisals</p>

	<p>guidance [ID991]. Publication expected December 2017</p> <p>Related NICE Pathways:</p> <p>Liver cancers (2016) NICE pathway</p>
Related National Policy	<p>National Service Framework Cancer</p> <p>Department of Health (2016) NHS outcomes framework 2016 to 2017</p>

References

1. National Cancer Registration and Analysis Service (2010) [Trends in incidences in primary liver cancer subtypes](#). Accessed May 2017
2. Patient (2015) [Hepatocellular carcinoma](#). Accessed May 2017
3. Office for National Statistics (2016) [Cancer registration statistics](#). Accessed May 2017.
4. April list 2016. [Cancer Drug Fund](#). Accessed May 2017.