NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Single Technology Appraisal

Axitinib for the treatment of advanced renal cell carcinoma after failure of prior systemic treatment

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of axitinib within its licensed indication for the treatment of advanced renal cell carcinoma after failure of prior systemic treatment.

Background

Renal cell carcinoma (RCC) is a type of kidney cancer that usually originates in the lining of the tubules of the kidney and contains many blood vessels. American Joint Committee on Cancer (AJCC) tumour node metastases (TNM) system is used to grade RCC into stages I to IV. Advanced RCC, in which the tumour is either locally advanced and/or has spread to regional lymph nodes, is generally defined as stage III or IV. Metastatic RCC, in which the tumour has spread beyond the regional lymph nodes to other parts of the body, is also defined as stage IV.

Early, small RCC tumours are usually asymptomatic; the diagnosis of early RCC is usually incidental after abdominal scans for other indications. The most common presenting symptoms of metastatic and/or advanced RCC are blood in the urine (haematuria), a palpable mass in the flank or abdomen and abdominal pain. Other non-specific symptoms include fever, night sweats, malaise and weight loss.

In 2009, 8163 new kidney cancers were diagnosed in England and Wales, of which an estimated 85 - 90% were RCC. Approximately 17% of people with RCC present with stage IV disease. The 5-year survival rate for metastatic RCC is approximately 10%.

The primary objectives of medical intervention are relief of physical symptoms and maintenance of function. Metastatic and/or advanced RCC is largely resistant to chemotherapy, radiotherapy and hormonal therapy. Current NICE guidance recommends sunitinib as a first-line treatment for people with advanced and/or metastatic RCC for whom immunotherapy is suitable and have an Eastern Cooperative Oncology Group (ECOG) status of 0 or 1 (technology appraisal 169). Pazopanib is recommended as a first-line treatment for people with advanced RCC have an ECOG status of 0 or 1 (Technology appraisal 215). An alternative treatment option for advanced and/or metastatic RCC is cytokine-based immunotherapy, including interleukin-2 (IL-2) (sometimes called aldesleukin) or interferon alfa 2-a (IFN-alfa). Current NICE guidance does not recommend bevacizumab, sorafenib or

temsirolimus as first-line treatments, or sorafenib or sunitinib as second-line treatments for people with advanced and/or metastatic RCC (Technology appraisal 178). Current NICE guidance does not recommend everolimus as second-line treatment for people with advanced RCC (Technology appraisal 219). There is no standard treatment for people with metastatic RCC in whom first-line treatment has failed, or is unsuitable. However, given the introduction of targeted therapies, sunitinib and pazopanib are currently used in clinical practice for treating people with metastatic RCC who have previously been treated with a cytokine only. Although these technologies were not recommended by NICE for this group of patients, their marketing authorisations allow this use and they are established in UK clinical practice in the prior-cytokine group.

The technology

Axitinib (Inlyta, Pfizer) is an oral multi-targeted kinase receptor inhibitor with anti-tumour activity. Axitinib inhibits vascular endothelial growth factor receptor (VEGFR) -1, -2 and -3, platelet-derived growth factor receptor (PDGFR), and c-kit, which may result in inhibition of angiogenesis in tumours.

Axitinib has a UK marketing authorisation for treatment of adult patients with advanced renal cell carcinoma after failure of prior treatment with sunitinib or a cytokine.

Intervention	Axitinib
Population	Adults with advanced renal cell carcinoma who have received prior cytokine or prior sunitinib treatment
Comparators	For people who received previous cytokine therapy (that is, people who have not received any targeted therapy for advanced disease) • Sunitinib • Pazopanib • Best supportive care For people who received previous sunitinib therapy • Best supportive care
Outcomes	The outcome measures to be considered include: • overall survival • progression free survival • response rates • 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	If evidence allows subgroups according to the following will be considered: • prior treatment • prognostic score (for example, ECOG or Motzer) Guidance will only be issued in accordance with the marketing authorisation.
Related NICE recommendations	Related Technology Appraisals: Technology Appraisal, No. 178, Aug 2009. 'Bevacizumab (first-line), sorafenib (first- and second-line), sunitinib (second-line) and temsirolimus (first-line) for the treatment of advanced and/or metastatic renal cell carcinoma'. Guidance placed on static list. Technology Appraisal, No. 169, Mar 2009. 'Sunitinib for the first-line treatment of advanced and/or metastatic renal cell carcinoma'. Guidance placed on static list. Technology Appraisal, No. 215, Feb 2011. 'Pazopanib for the first-line treatment of advanced renal cell carcinoma''. Expected date of review December 2013. Technology Appraisal, No. 219, Apr 2011. 'Everolimus for the second-line treatment of advanced renal cell carcinoma'. Expected date of review February 2013. Related Interventional Procedures: Interventional Procedure No. 344, Jan 2007, 'Cryotherapy for renal cancers' NICE Interventional Procedure Guidance No. 91, Sep 2004, 'Percutaneous radiofrequency ablation of renal cancer' Related Cancer Service Guidance: NICE Cancer service guidelines, Sep 2002, 'Improving outcomes in urological cancer'.