

Everolimus, lutetium-177 DOTATATE and sunitinib for advanced, unresectable or metastatic neuroendocrine tumours with disease progression: a systematic review and cost-effectiveness analysis

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Declared competing interests of authors: John Ramage reports research grants to King's College Hospital from Novartis Pharmaceuticals UK Ltd (Frimley, UK) and Imaging Equipment Ltd (Radstock, UK) and a research grant to Hampshire Hospitals NHS Foundation Trust from Pfizer UK (Tadworth, UK), outside the submitted work.

Published September 2018

DOI: 10.3310/hta22490

Plain English summary

Three interventions for treating neuroendocrine tumours

Health Technology Assessment 2018; Vol. 22: No. 49

DOI: 10.3310/hta22490

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Plain English summary

Neuroendocrine tumours (NETs) usually occur in the intestine, but they are also found in the pancreas, the lung and the rest of the body. Here we consider patients with advanced NETs who have previously been treated and who are not suitable for surgery. We review the evidence for the clinical effectiveness and cost-effectiveness of three drugs used for treating NETs.

We systematically reviewed the effectiveness literature and wrote a mathematical model to estimate the cost-effectiveness of the following treatments for use in the NHS in England and Wales: sunitinib and everolimus for pancreatic NETs (pNETs), everolimus for gastrointestinal and lung NETs and everolimus and lutetium-177 DOTATATE (177Lu-DOTATATE) for midgut NETs.

We critically reviewed three relevant clinical trials. All suggested that the new treatments slow disease progression and reduce the risk of death. However, they also increase the chance of side effects. It was difficult to compare the effectiveness of sunitinib and everolimus for pNETs because, in both relevant trials, many patients assigned the control treatment subsequently received sunitinib or everolimus after their disease relapsed. After adjustments were made to correct for this, we found no evidence for a difference in effectiveness between sunitinib and everolimus for treating pNETs.

Two pharmaceutical companies also wrote mathematical models to estimate the cost-effectiveness of their drugs: Novartis Pharmaceuticals UK Ltd (Frimley, UK) for everolimus and Advanced Accelerator Applications Ltd (Saint-Genis-Pouilly, France) for 177Lu-DOTATATE.

Given currently accepted thresholds for cost-effectiveness, our analysis suggests that, based on publicly available drug prices, only sunitinib for pNETs might be considered good value for money in England and Wales.

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 4.513

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, The Cochrane Library and the Clarivate Analytics Science Citation Index.

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This report

The research reported in this issue of the journal was commissioned and funded by the HTA programme on behalf of NICE as project number 15/69/19. The protocol was agreed in June 2016. The assessment report began editorial review in June 2017 and was accepted for publication in January 2018. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care.

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