

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Appraisal

Abemaciclib with an aromatase inhibitor for untreated advanced hormone receptor-positive, HER2-negative breast cancer

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of abemaciclib within its marketing authorisation for treating hormone receptor-positive, HER2-negative breast cancer.

Background

Breast cancer arises from the tissues of the ducts or lobules of the breast. The cancer is said to be 'advanced' if it has spread to other parts of the body such as the bones, liver, and lungs (metastatic cancer), or if it has grown directly into nearby tissues and cannot be completely removed by surgery.

In 2015 in England, around 46,083 people were diagnosed with breast cancer¹. In 2016 there were 9,685 deaths from breast cancer in England². The 1-year survival rate for adults with metastatic breast cancer in England is 63%³. Approximately 13% of women with breast cancer have advanced disease when they are diagnosed⁴, and around 35% of people with early or locally advanced disease will progress to metastatic breast cancer in the 10 years following diagnosis⁵.

Current treatments for advanced breast cancer aim to relieve symptoms, prolong survival and maintain a good quality of life with minimal adverse events. Treatment may depend on whether the cancer cells have particular receptors (hormone receptor status or HER2 status), the extent of the disease, and previous treatments.

NICE clinical guideline 81 (CG81) recommends first-line treatment with endocrine therapy for most people with advanced hormone receptor-positive breast cancer. But for people whose disease is life-threatening or requires early relief of symptoms, CG81 recommends chemotherapy. The endocrine therapies used in clinical practice for advanced hormone receptor-positive breast cancer in postmenopausal people include aromatase inhibitors (anastrozole and letrozole) and tamoxifen, only if aromatase inhibitors are not tolerated or are contraindicated. People who are premenopausal or perimenopausal will receive first-line treatment with tamoxifen and ovarian suppression if they have not previously received tamoxifen. NICE technology appraisals 495 and 496 recommend palbociclib with an aromatase inhibitor and ribociclib with and aromatase inhibitor for treating hormone receptor

positive, HER2-negative, locally advanced or metastatic breast cancer as initial endocrine based therapy in adults.

The technology

Abemaciclib (Verzenio, Eli Lilly) is an inhibitor of cyclin-dependent kinases 4 and 6, which prevents DNA synthesis by prohibiting progression of the cell cycle from G1 to S phase. It is administered orally.

Abemaciclib does not currently have a marketing authorisation in the UK for treating hormone receptor-positive, HER2-negative breast cancer. It has been studied in clinical trials in combination with anastrozole or letrozole, compared with placebo, in postmenopausal women in HER2-negative advanced breast cancer who had no prior systemic therapy in the advanced setting.

Intervention(s)	Abemaciclib in combination with an aromatase inhibitor
Population(s)	People with advanced hormone-receptor positive HER2-negative breast cancer that has not been previously treated with endocrine therapy.
Comparators	<ul style="list-style-type: none"> • Palbociclib with an aromatase inhibitor • Ribociclib with an aromatase inhibitor
Outcomes	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> • overall survival • progression-free survival • response rate • adverse effects of treatment • health-related quality of life.

<p>Economic analysis</p>	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. If the technology is likely to provide similar or greater health benefits at similar or lower cost than technologies recommended in published NICE technology appraisal guidance for the same indication, a cost-comparison may be carried out.</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>The availability of any patient access schemes for the comparator technologies will be taken into account.</p>
<p>Other considerations</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:</p> <p>Ribociclib with an aromatase inhibitor for previously untreated, hormone receptor-positive, HER2-negative, locally advanced or metastatic breast cancer (2017) NICE technology appraisal 496. Review date December 2020.</p> <p>Palbociclib with an aromatase inhibitor for previously untreated, hormone receptor-positive, HER2-negative, locally advanced or metastatic breast cancer (2017) NICE technology appraisal 495. Review date December 2020.</p> <p>Bevacizumab in combination with capecitabine for the first-line treatment of metastatic breast cancer (2012) NICE technology appraisal 263. On static list.</p> <p>Bevacizumab in combination with a taxane for the first-line treatment of metastatic breast cancer (2011) NICE technology appraisal 214. On static list.</p> <p>Gemcitabine for the treatment of metastatic breast cancer (2007). NICE technology appraisal 116. On static</p>

	<p>list.</p> <p>Related guidelines:</p> <p>Advanced breast cancer: diagnosis and treatment (2009, updated 2017). NICE guideline CG81. Review date 2017.</p> <p>Familial breast cancer: Classification and care of people at risk of familial breast cancer and management of breast cancer and related risks in people with a family history of breast cancer (2013, updated 2017). NICE guideline 164. Next review to be scheduled.</p> <p>Related quality standards:</p> <p>Breast cancer (2011, updated 2016). NICE quality standard 12.</p> <p>Related NICE Pathways:</p> <p>Advanced breast cancer (2017) NICE Pathway</p> <p>Familial breast cancer (2013) NICE Pathway</p>
Related National Policy	<p>NHS England (2016) Manual for Prescribed Specialised Services. Chapter 105, Specialist Cancer services (adults)</p> <p>Department of Health and Social Care (2016) NHS Outcomes Framework 2016-2017. Domains 1 and 2.</p>

References

- 1 Office for National Statistics (2017) [Cancer registration statistics, England, 2015](#). Accessed August 2017.
- 2 Office for National Statistics (2017) [Mortality statistics – underlying cause, sex and age](#). Accessed December 2017.
- 3 Cancer Research UK (2014) [Breast cancer survival statistics](#). Accessed August 2017.
- 4 Cancer Research UK (2014) [Breast cancer incidence statistics](#). Accessed August 2017.
- 5 Dewis R and Gribbin J (2009) [Breast cancer: diagnosis and treatment, an assessment of need](#). Cardiff: National Collaborating Centre for Cancer. Accessed August 2017.