



Evidence for the use of cancer drugs to treat older people

A SUMMARY OF EVIDENCE ON THE TOLERABILITY AND EFFECTIVENESS OF SYSTEMIC ANTI-CANCER THERAPY IN OLDER PEOPLE

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Introduction

There is now extensive evidence that older people are less likely to receive active anti-cancer treatment. Some older people may be less able to tolerate cancer treatment, but it is likely that this is only part of the explanation for the disparity.

The Department of Health (DH) has stated that age alone should never be used as a barrier to treatment, but has acknowledged that there is a need to gather improved evidence on the impact of treatment in older people.¹

Older people are less likely to be included in clinical trials² and previous research has shown that perceived gaps in evidence are a significant concern for clinicians and that this is a barrier to appropriate treatment for older people.³

In order to better understand the evidence on the clinical effectiveness and tolerability of treating older people with cancer drugs, the National Cancer Equality Initiative (NCEI) and the Pharmaceutical Oncology Initiative (POI) commissioned the Liverpool Reviews and Implementation Group to undertake systematic reviews for the following cancers:

- Breast cancer
- Kidney cancer
- Bowel cancer
- Chronic Myeloid Leukaemia
- Non-Hodgkin Lymphoma
- Lung cancer

Key findings

- Treatment outcomes for older people are comparable to those for younger people
- Relatively fit older people can safely tolerate anti-cancer therapies
- The treatment of older people generally comes with a risk of more serious adverse events
- Early discontinuation of treatment or dose modification is more common in older people
- Future clinical trials should make greater use of Comprehensive Geriatric Assessment and age-specific quality of life measures
- Any decisions on treatment should only be made after meaningful discussion between patients and clinicians about treatment options. Discussions should take into account physical fitness, comorbidities and personal choice



About the NCEI and POI partnership

The NCEI is an NHS England initiative to bring together key stakeholders from groups including healthcare professionals, the voluntary sector, academics, and equality champions. It works to support a coordinated approach to improving patient experience, clinical effectiveness and safety, driven by a clear focus on tackling inequalities and promoting equality in cancer. It advises on gaps in research and works with stakeholders to improve the evidence base.

The ABPI Pharmaceutical Oncology Initiative (ABPI POI) is a group of pharmaceutical companies who are all members of The Association of the British Pharmaceutical Industry. The POI vision is to ensure that all people with cancer have equal access to the right services and medicines at the right time, giving them the best chance to manage their cancer.

The POI member companies supporting this project are Amgen, AstraZeneca, Boehringer Ingelheim, Bristol-Myers Squibb, Celgene, Eli-Lilly, GlaxoSmithKline, Janssen-Cilag, Merck Serono, MSD, Napp, Novartis, Pfizer, Sanofi and Takeda. The companies provided funding for the research conducted and provided representation on the project partnership with NCEI.

Previous reports by the partnership are:

[The impact of patient age on clinical decision-making in oncology](#),⁴ published in February 2012, which examined clinical attitudes towards the treatment of older people as well as the extent to which age was a factor in treatment decisions

[Are older people receiving cancer drugs?](#),⁵ published in December 2013, which looked at variations in the usage of chemotherapy in England according to age

Definition of older people

There is no agreed definition of 'older': the World Health Organisation⁶ states that most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or 'older' whilst the British Geriatrics Society⁷ describes geriatric medicine as being mainly concerned with people aged over 75. The reports for breast and kidney cancer have therefore focussed on published studies which specifically describe their participants or subgroups of participants, as 'older' or 'elderly'. In order to obtain a comprehensive dataset, no restrictions were made with regards to the stage of disease, tumour histology or the line of treatment described in the literature. The report for haematological malignancy commonly refers to older people as either over 65 or 75.

Breast cancer

The review of breast cancer included an analysis of a wide range of studies, divided into six categories, building up a comprehensive evidence base. In total data from eight Randomised Control Trials (RCTs), five subgroups of RCTs, seven pooled analyses, 34 single or comparative cohort studies and 20 retrospective studies were included.

The review found that:

- Treatment outcomes for older people are broadly similar to those of younger people
- Older people can tolerate chemotherapy, although treatment does come with a risk of more serious adverse events
- Discontinuation of treatment or dose reduction is more common with older people, suggesting that side effects are a greater issue
- Older people are less likely to “bounce back quickly” following treatment or illness

The review suggested that:

- Age should not be a barrier to treatment for breast cancer
- Careful pre-treatment assessment and enhanced support for informed patient decision-making are important for older people
- Older age should not disqualify people from clinical trials

The full report can be read at:

http://www.liv.ac.uk/media/livacuk/instituteofpsychology/Lrig/LRiG_BREAST_REVIEW.pdf

Kidney cancer

Nine studies were identified, all of which focussed on advanced or metastatic renal cell carcinoma.

The review highlighted that:

- Patients with good performance status and adequate kidney function can benefit from systemic anti-cancer therapies irrespective of age
- The survival benefit of treatment appears to be similar for patients of all ages
- Treatment discontinuation, serious adverse events and dose reductions were more common in older people
- There has been insufficient research on the impact of treatment on quality of life in older people

The review suggested that:

- The development of age-specific quality of life measures in future clinical trials is needed
- Trials should make use of standardised Comprehensive Geriatric Assessments
- Research is required to investigate the use of lower doses or modified schedules for some older people, given the toxicity profiles of some treatments

The full report can be read at:

http://www.liv.ac.uk/media/livacuk/instituteofpsychology/lrig/LRIG,RENAL_REVIEW.pdf

Chronic Myeloid Leukaemia (CML)

15 studies were identified, including two subgroup analyses of randomised control trials, four pooled analyses, three single cohorts, and six retrospective studies.

The review highlighted that:

- Systemic anti-cancer therapy can be used safely in older patients, with a good response to treatment
- There is, however, a lack of research designed specifically to address toxicity and efficacy of CML therapy in older patients

The review suggested that:

- Any decisions on treatment should only be made after meaningful discussion between patients and clinicians about treatment options
- There is a need for randomised control trials focused on older people
- Outcomes relating to the tolerability of treatment should be standardised
- The development of standardised tools that measure toxicity and quality of life would be helpful for future trials

The full report can be read at:

https://www.liverpool.ac.uk/media/livacuk/instituteofpsychology/CML_FINAL_2015.pdf

Colorectal cancer

85 studies were identified, including two randomised control trials and 10 sub-groups of randomised control trials, seven pooled analyses, 49 single cohort studies and 17 retrospective studies.

The review highlighted that:

- Systemic anti-cancer therapies can be effective in treating older patients with colorectal cancer, with older people experiencing similar results from treatment as younger patients
- Treatment appears to be tolerable, but older people are at higher risk of adverse events
- The findings from the review may not be generalisable to the wider population due to quality issues with some of the studies included. There is a need for more good-quality research into the treatment of older people with colorectal cancer

The review suggested that:

- Older people should be given the opportunity to discuss treatment options with healthcare professionals. Discussions should take into account physical fitness, comorbidities and personal choice
- There is scope for trials to be conducted on solely older populations in order to fully ascertain the benefits and potential harms of treatment
- Future trials should explore the impact of dose reduction for patients who experience side effects
- Future trials should make more use of structured, standardised comprehensive geriatric assessments (CGA)

The full report can be read at:

https://www.liverpool.ac.uk/media/livacuk/instituteofpsychology/RENAL_REVIEW_2015.pdf

Non-Hodgkin's Lymphoma (NHL)

108 studies were identified in six categories, based on study design. The six categories were: randomised control trials; sub-group analyses of trials; pooled analyses; prospective comparative cohorts; prospective single cohorts; and retrospective data.

The review highlighted that:

- Systemic anti-cancer therapy can benefit fit older patients, but there is a risk of increased toxicity for many treatments used to treat aggressive NHL
- Even though age is a risk factor for toxicity, age alone should not be a barrier to chemotherapy for patients with NHL, as other factors including fitness, comorbidities and personal choice should be taken into account
- There is a need for more high quality research into the treatment of older people with NHL

The review suggested that:

- Decisions on treatment should be made after discussions between patients and healthcare professionals
- More research is needed on how older people with NHL are treated outside of clinical trials, including the rationale for treatment, what therapies are used and why
- Future clinical trials should adopt uniform definitions of 'older' patients and make use of standardised assessment tools, especially in relation to tolerability and quality of life

The full report can be read at:

https://www.liverpool.ac.uk/media/livacuk/instituteofpsychology/LRIG_NHL_FINAL.pdf

Lung cancer

199 studies were identified in six categories, based on study design. The six categories were: randomised control trials; sub-group analyses of trials; pooled analyses; prospective comparative cohorts; prospective single cohorts; and retrospective data.

The review highlighted that:

- Systemic anti-cancer therapy can benefit some older patients
- Age alone should not be used as a determinant of treatment, as other factors including fitness, comorbidities and personal choice should be taken into account.
- The absence of consistent definitions of 'older', as well as inconsistencies in the reporting of quality of life and the use of CGA hinders systematic analysis

The review suggested that:

- Efforts should be made to improve the quality of future research into older people with lung cancer
- Future research into the treatment of older patients with lung cancer should focus on histology and mutation status to enable clinicians to offer more targeted treatments to older patients
- It is essential that future research adopts more uniform definitions and standardised assessment tools
- Future trials could make more use of structured, standardised CGA as part of their inclusion criteria

The full report can be read at:

https://www.liverpool.ac.uk/media/livacuk/instituteofpsychology/LUNG,REVIEW_FINAL_2015.pdf



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