

P502: Long-term incidence of lung cancer in the TARGIT-A randomised trial of targeted intraoperative radiotherapy for breast cancer

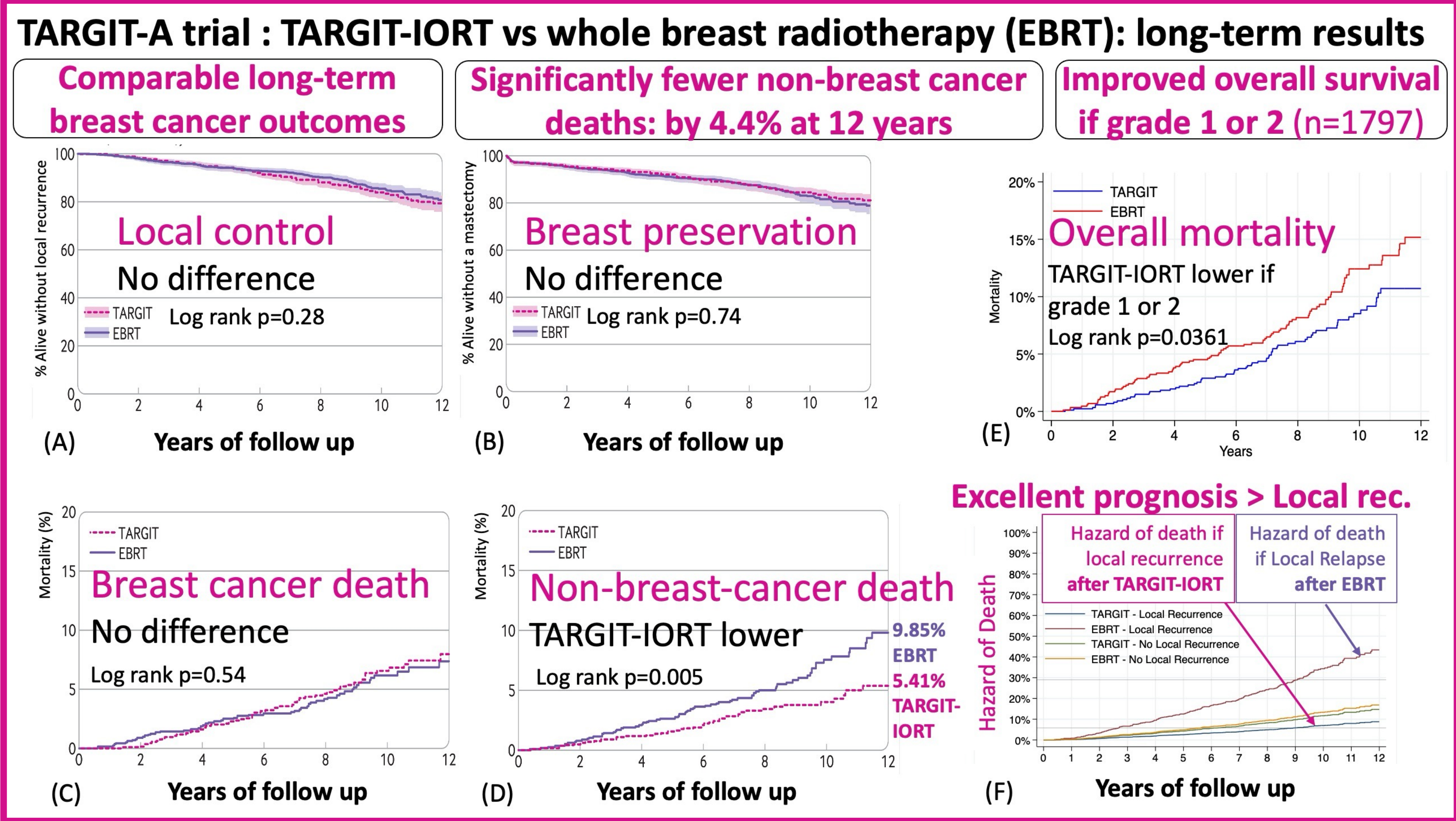
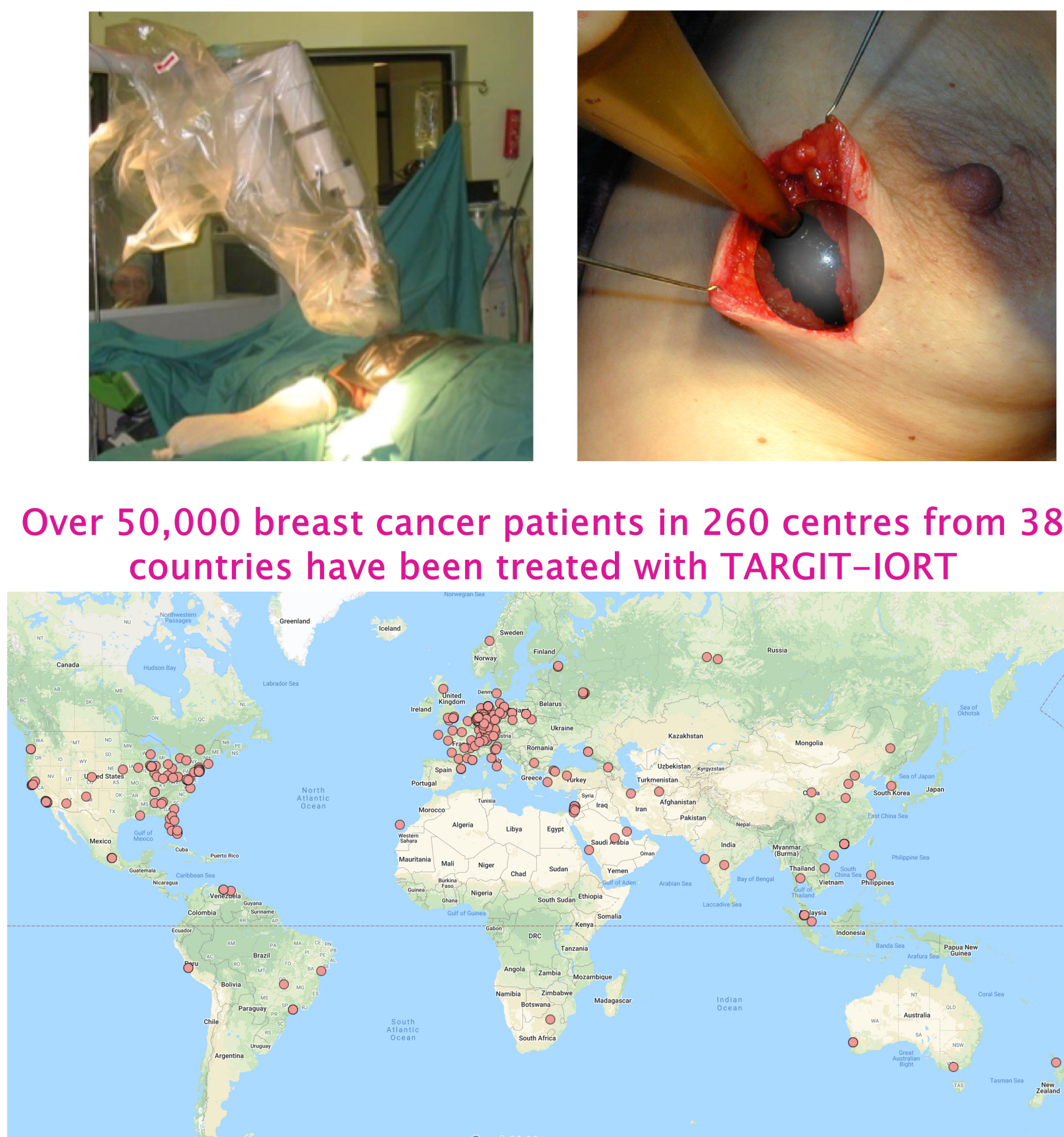
Jayant S Vaidya^{1,2}, Norman R. Williams¹, Max Bulsara³, Michael Baum¹, Chris Brew-Graves¹, Ingrid Potyka¹, Nick Roberts¹, Julie Lindsay⁴, Siobhan Laws⁵, Sanjay Raj⁵, Michael Douek⁶, Mary Falzon⁷, Gloria Petralia⁸, Anu Malhotra⁹, Sarah Needleman¹⁰, Marcelle Bernstein¹¹, David Morgan¹², Jeffrey S. Tobias⁷.

Background Breast conserving surgery is traditionally followed by external beam whole breast radiotherapy (EBRT), which can be onerous, and lead to inevitable and potentially carcinogenic irradiation of the nearby lungs.

The results of the TARGIT-A randomised trial found that TARGIT-IORT during the initial lumpectomy is as effective as EBRT in controlling breast cancer.

The TARGIT-A trial, found that TARGIT-IORT has several benefits to the patient: reduced pain, better cosmetic outcome, improved quality of life, substantially less travel and cost.

- Significantly fewer deaths from non-breast-cancer causes with TARGIT-IORT vs. whole breast radiotherapy (EBRT).
- TARGIT-IORT conferred an overall survival benefit in patients with grade 1 or 2 cancers with a 12-year mortality reduction from 15% to 10.5%.



More info at targetit.org.uk



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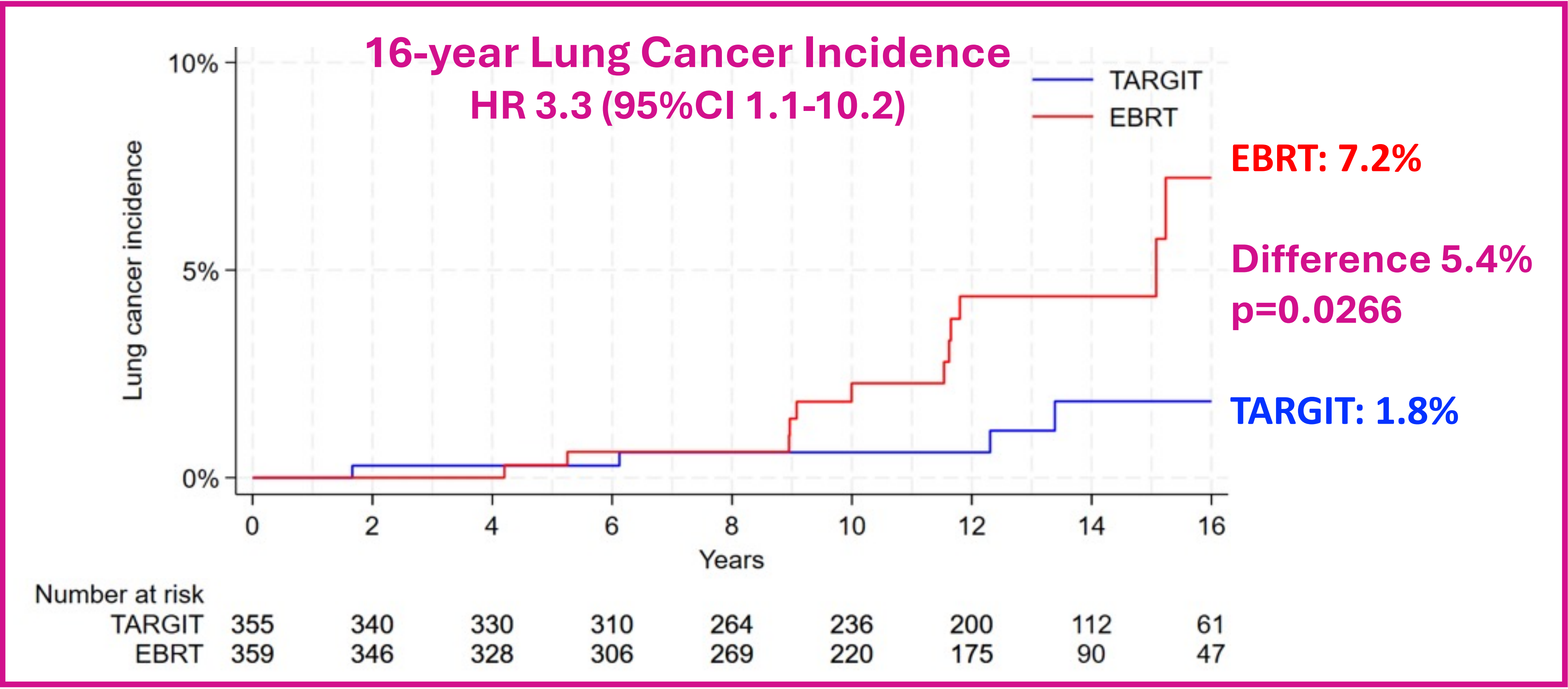


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Material and methods

- We collected long term data about health status and new cancer diagnoses of UK patients from the TARGIT-A randomised trial, using direct patient contact, & NHS Digital data.
- We compared lung cancer incidence between patients randomised to TARGIT-IORT vs EBRT.



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- Results** The follow up of UK patients (n=714) increased to a median of 14 years (IQR 13 to 16).
- Significantly more lung cancer diagnoses with EBRT vs TARGIT-IORT; HR 3.3 (95%CI 1.1-10.2).
 - The 16-year incidences were: EBRT: 7.2% (95%CI 3.7 – 13.7) and TARGIT: 1.8% (95%CI 0.6-5.2)
 - Reduction in lung cancer incidence with TARGIT-IORT= 5.4% (95%CI 0.3 -10.5), log rank p=0.0266.

50,000 breast cancer patients could avoid getting lung cancer by taking TARGIT-IORT during lumpectomy*

*An estimated 920,000 breast cancer patients worldwide are suitable for TARGIT-IORT during lumpectomy, annually.

Using the 5.38% reduction in lung cancer risk that we have observed, if TARGIT-IORT were to be made accessible to these patients, then 49,496 (95%CI 5500-134320) of these patients would be spared the diagnosis of a lung cancer during their follow up.

Conclusions

- With very long-term follow data from of a large TARGIT-A randomised trial, we found a substantial increase in lung cancer incidence with EBRT vs TARGIT-IORT.
- It is a tragedy when women who outlive breast cancer then succumb to this frequently lethal radiation-induced lung cancer, which is avoidable by using TARGIT-IORT during lumpectomy instead of post-operative EBRT.
- These new data further mandate full discussion about benefits of TARGIT-IORT with patients, including reduction in lung cancer incidence, before their surgery.

¹University College London, London, London, UK, ²University College London, Division of Surgery and Interventional Science, London, UK, ³Institute for Health Research-University of Notre Dame Australia MB, Australia, Fremantle, Australia, ⁴Ninewells Hospital, Dundee, Dundee, UK, ⁵Hampshire Hospitals NHS Trust, Winchester, Winchester, UK, ⁶University of Oxford, Oxford, Oxford, UK, ⁷University College London Hospital, London, London, UK, ⁸Oxford University Hospitals, Oxford, Oxford, UK, ⁹Guy's Hospital, London, London, UK, ¹⁰Royal Free Hospital, London, London, UK, ¹¹London, London, London, UK, ¹²Nottingham University Hospitals, Nottingham, Nottingham, UK.