

Documents

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Mapping the location of local and regional recurrences according to breast cancer surgery and radiation therapy: Results from EORTC 22922/10925

(2023) *Radiotherapy and Oncology*, 185, art. no. 109698, . Cited 3 times.

DOI: 10.1016/j.radonc.2023.109698

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Abstract

The purpose of this study is to evaluate the influence of the extent of surgery and radiation therapy (RT) on the rates and sites of local (LR) and regional recurrences (RR) in the EORTC 22922/10925 trial. Patients and methods: All data were extracted from the trial's individual patients' case report forms (CRF) and analysed with a median follow-up of 15.7 years. Cumulative incidence curves were produced for LR and RR accounting for competing risks: an exploratory analysis of the effect of the extent of surgical and radiation treatments on LR rate was conducted using the Fine & Gray model accounting for competing risks and adjusted for baseline patient and disease characteristics. The significance level was set at 5%, 2-sided. Frequency tables were used to describe the spatial location of LR and RR. Results: Out of 4004 patients included in the trial, 282 (7%) patients experienced LR and 165 (4.1%) RR, respectively. Cumulative incidence rate of LR at 15 years was lower after mastectomy (3.1%) compared to BCS + RT (7.3%) (F&G: HR (Hazard Ratio) = 0.421, 95%CI = 0.282–0.628, p-value < 0.0001). LR were similar up to 3 years for both mastectomy and BCS but continued to occur at a steady rate for BCS + RT, only. The spatial location of the recurrence was related to the locoregional therapy applied and the absolute gain of RT correlated to stage of disease and extent of surgery. Conclusions: The extent of locoregional therapies impacts significantly on LR and RR rates and spatial location. © 2023 Elsevier B.V.

Author Keywords

Breast cancer; EORTC; Local recurrences; Loco-regional recurrences; Radiotherapy

Index Keywords

adult, Article, axillary lymph node dissection, breast cancer, breast surgery, cancer radiotherapy, cancer recurrence, cancer staging, cancer surgery, controlled study, cumulative incidence, exploratory research, female, follow up, human, informed consent, major clinical study, male, mastectomy, recurrence risk, sentinel lymph node, systemic therapy, thorax wall, tumor burden, tumor volume, breast tumor, epidemiology, partial mastectomy, procedures, recurrent disease, tumor recurrence; Breast Neoplasms, Female, Humans, Mastectomy, Mastectomy, Segmental, Neoplasm Recurrence, Local, Recurrence

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Publisher: Elsevier Ireland Ltd

ISSN: 01678140

CODEN: RAOND

PubMed ID: 37211281

Language of Original Document: English

Abbreviated Source Title: Radiother. Oncol.

2-s2.0-85159679289

Document Type: Article

Publication Stage: Final

Source: Scopus

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