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Impact of immediate breast reconstruction after mastectomy on the timing of adjuvant chemotherapy: a nationwide study in the Netherlands'

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**Beschrijving onderzoek**
Despite advancements in diagnostics and systemic treatment, up to one-third of breast cancer patients undergoes a mastectomy as their first surgical treatment to achieve local control of the disease (1). Additionally, chemotherapy plays an essential role in the adjuvant therapy of breast cancer. The European Society for Medical Oncology (ESMO) recommends starting AC within 2-6 weeks (13) and the Dutch Plastic Surgery Association recommends within six weeks after surgery. A considerable amount of research has been published on the relationship of time from surgery to adjuvant chemotherapy (AC) and survival of breast cancer patients. Several studies have reported that initiation of AC within 6 to 12 weeks after surgery decreased the disease-free and overall survival (2-9) and is clinically acceptable. Although no international consensus exists on the definition of an unacceptable delay, it is advocated in all guidelines that initiation of AC should not be unnecessarily delayed as it has a negative impact on survival, especially patients at higher risk of recurrence (5, 6, 12).

One of the current discussions in minimizing unnecessary delay is the impact of immediate breast reconstruction (IBR) after mastectomy as a treatment delaying factor. There has been a growing concern regarding this impact as an increasing number of patients underwent IBR in the last decade (14, 15). Breast reconstruction can be performed immediately after mastectomy or delayed after completion of additional treatment. Due to lack of high-level evidence and conflicting conclusions in literature physicians are cautious to recommend IBR if adjuvant chemotherapy is part of the treatment plan preoperatively (16).

Loss of the breast after surgery can negatively affect the body image, sexuality, and self-esteem of a woman (17). IBR aims to improve these adverse effects and increase the quality of life.
of life. Despite the longer operation time, IBR has been reported to achieve excellent aesthetic results and a less psychological impact for the patient in comparison to delayed reconstruction due to fewer operations and hospital admissions (18, 19). Furthermore, previous studies reported that no contraindications exist for IBR concerning the number of adverse events in comparison to mastectomy alone in combination with adjuvant chemotherapy (20-23).

A systematic review from 2015 concluded that IBR does not delay the time to adjuvant chemotherapy (TTC) to a clinical extent, although the included studies showed strong contradictory results and the clinical limit was set at more than 12 weeks (24). The current literature on this topic exists of single-center studies with statistically heterogeneous approaches. A nationwide study with an analysis that adjusts for the treatment by indication bias could provide the answer if IBR is an unnecessary treatment delaying factor.

Research aim:
This study aims to analyze whether IBR negatively affects the TTC compared to mastectomy only on a nationwide scale in the Netherlands.


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