INPLASY PROTOCOL

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None declared.

Prognostic and clinicopathological significance of fatty acid synthase in breast cancer: a systematic review and meta-analysis

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Review question / Objective: **The purpose of this study was to investigate whether there were statistical differences in overall survival and disease-free survival between breast cancer patients with high fatty acid synthase expression and breast cancer patients with low fatty acid synthase expression, and to study whether there were pathological differences between the two.**
Condition being studied: **This study studied breast cancer, which is the malignant tumor with the highest incidence in women worldwide. Currently, there are four pathological types with different degrees of malignancy. Currently, the commonly used treatments are surgery, chemotherapy, radiotherapy, targeted therapy and endocrine therapy. There are different treatment plans for different pathologic types with different prognosis.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 December 2022 and was last updated on 05 December 2022 (registration number INPLASY2022120020).

INTRODUCTION

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METHODS

Participant or population: 4337 breast cancer patients.

Intervention: Fatty acid synthase expression levels.

Comparator: Higher fatty acid synthase expression level.

Study designs to be included: Retrospective.

Eligibility criteria: (i) Belong to the original paper; (ii) Research to report on outcome measures, like OS, DFS, or RFS; (iii) Studies assessing the prognostic significance of FASN in breast cancer as well as patients' survival data with an estimate of the hazard ratio (HR) and its 95% confidence interval (CI), or other data for reconstruction of survival data, such as Kaplan-Meiercurves.

Information sources: Pubmed, Embase, web of science, Cochrane Library

Main outcome(s): Disease-free survival, overall survival, relapse-free survival.

Quality assessment / Risk of bias analysis: Newcastle-Ottawa Quality Assessment Scale.

Strategy of data synthesis: STATA software was selected for data analysis, I2 > 50% and P < 0.05 showed heterogeneity, and a random effects model with heterogeneity was selected for data consolidation.

Subgroup analysis: Subgroup analysis was performed based on Country, initial inclusion period, and median age.

Sensitivity analysis: Sensitivity analysis was performed by STATA. We performed sensitivity analysis by sequentially ignoring individual studies.

Country(ies) involved: China.

Keywords: breast cancer, fatty acid synthase, overall survival, disease-free survival, meta-analysis.

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