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| **Study** | **Sample Population** | **Tumor Model** | **Fasting Schedule** | **Outcome** | **Limitations** |
| Marinac 2016 | - 2413 breast cancer patients  - Age: 27-70 years  - No diabetes mellitus | - Breast cancer | - TRF – nightly fasting (~12.5-h/ night) | - ↓ hemoglobin A1c level  - ↑ nightly fasting <13-h was associated with reduced breast cancer recurrence  - ↑ sleep duration | *- ERBB2* status was not available for a large portion of sample population  - Analyzed multiple primary endpoints for prognosis but did not control for multiple comparisons |
| De Groot 2020 | - 129 patients with HER2-negative stage II/III breast cancer  - No diabetes mellitus | - Breast Cancer | - FMD – 4 days of plant-based low amino-acid substitution diet followed by 3 days of ad libitum feeding | - ↓ DNA damage post chemotherapy  - ↑ sensitization to chemotherapy (increase in % tumor cell loss)  - ↑ response to radiological therapy | - ↓ compliance with each cycle of FMD  - Participants in the control group fasted some days impacting FMD analysis |
| De Groot 2015 | - 13 patients with HER2-negative stage II/III breast cancer  - No diabetes mellitus  - Age ≥ 18 years  - Adequate bone marrow, renal, cardiac, and liver function | - Breast Cancer | - STF – 6 cycles of fasting 24-h prior and after start of chemotherapy (only allowed water, tea or coffee with no sugar) | - ↑ recovery of chemotherapy-induced DNA damage and toxicity in healthy cells  - Evidence of STF providing protection against chemotherapy-associated hematological toxicity  - ↓ in plasma IGF-1 which mediates protective effects for healthy cells | - Small sample size (2 participants withdrew after 3 cycles of FMD)  - High dose of dexamethasone was given during FMD cycles which can counteract the therapeutic effects of STF |
| Safdie 2009 | - 10 patient case study (7 female, 3 male)  - Median age: 61 years | - Breast (4), Prostate (2), Ovarian (1), Non-small cell carcinoma of the lung (1), Esophageal adenocarcinoma (1) | - STF – varying hours between 40-140 hours in total prior chemotherapy and 5-56 hours post chemotherapy compared to patients who did not fast | - ↓ reports of nausea, vomiting, diarrhea, abdominal cramps, and mucositis compared to control group fed *ad libitum* | - Inconsistent fasting periods  - Medical reports between participants were reviewed retrospectively (eg. demographic information, diagnosis, treatment, imaging and laboratory analysis) |
| Bauersfeld 2018 | - 34 patients  -Age ≥ 18 years  -No diabetes mellitus  -Anticipated life expectancy > 3 months | - Gynecological cancer (breast or ovarian cancer) | - STF – 36-h prior to chemotherapy and 24-h post treatment (total 60 fasting hours) | - ↑ Quality of life (QoL) for fasted patients compared to control and reduce fatigue during chemotherapy | - Small sample size  - Cross-over study design may produce carry-over effects and bias  - Study was conducted in Germany where there is a positive notion with the idea of fasting so participants may be biased to state that QoL has improved |
| Dorff 2016 | - 20 patients  - Median age: 61 years  - 85% women | - Urothelial (bladder), ovarian or breast cancer | - STF – 2 fasting cycles of each 24-h, 48-h and 72-h fasts consecutively compared to baseline measurements of participants | - ↑ hematopoietic protection with prolonged fasting periods  - ↓ myelosuppression with fewer occurrences of neutropenia | - Confounding variables as not all participants are diagnosed with similar stage of cancer progression  - Incomplete compliance of fast since they were allowed “rescue food” of 200kcal per day |

STF: Short-Term Fasting

FMD: Fasting-Mimicking Diet