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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