Checking for changes in the number of circulating tumor cells (CTCs) could help doctors predict advanced prostate cancer patients' survival and response to treatment, U.S. researchers report.

They studied the association between CTC numbers (before and after treatment) and survival, along with other factors such as changes in levels of prostate-specific antigen (PSA) and baseline lactate dehydrogenase (LDH) in 164 prostate cancer patients starting first-line chemotherapy regimens.

High values of CTC numbers and PSA levels before treatment were associated with increased risk of death. At four, eight and 12 weeks after treatment, changes in CTC numbers were strongly associated with increased risk of death, while changes in PSA were only marginally associated with increased risk of death.

The findings confirm that pre-treatment CTC numbers help predict survival of prostate cancer patients starting first-line chemotherapy. CTC numbers also help monitor disease status and response to treatment, and CTC is a better predictor than PSA, the researchers said.

"CTC number[s] ... can be used to monitor disease status and might be useful as an intermediate endpoint of survival in clinical trials," wrote study author Howard Sher, of Memorial Sloan-Kettering Cancer Center in New York City. "Use as an intermediate or surrogate endpoint for survival could shorten the time line for drug approval," although "several prospective trials are needed to generate evidence to guide the use of biomarkers."

The study was published online and will appear in the March print issue of *The Lancet Oncology* .