

Spotlight

By Gina Kirchweger

Trifunctional Antibodies Call in the Immune System

Heiss *et al.*

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A new approach to the management of malignant ascites relies on trifunctional antibodies, which target specific surface markers and harness the immune system to destroy tumor cells. In a previous phase I/II study, one such antibody, catumaxomab, which binds to epithelial tumor cells via the epithelial cell-adhesion molecule (EpCAM), significantly reduced the flow of ascites and diminished the number of EpCAM-positive tumor cells by up to five orders of magnitude.

For the first prospective, randomized trial comparing intraperitoneal infusion of catumaxomab plus paracentesis with paracentesis alone, Heiss *et al.* enrolled 258 cancer patients (129 ovarian and 129 non-ovarian) with recurrent symptomatic malignant ascites resistant to conventional chemotherapy. Median puncture-free survival was significantly longer in catumaxomab patients (46 days) than in the control group (11 days), as was median time to next paracentesis (77 versus 13 days). Catumaxomab patients not only suffered from fewer signs of ascites such as distension, anorexia, nausea, abdominal pain and swelling compared to the control group but the numbers of detectable tumor cells, which are the main cause of malignant ascites, were also lower. Overall survival showed a positive trend for the catumaxomab group and was significantly prolonged in patients with gastric cancer (71 versus 44 days). Side effects were frequent but tolerable and mostly related to the treatment's immunologic mode of action.

Taken together, these findings suggest that the use of trifunctional antibodies could be beneficial for the treatment of patients with recurrent malignant ascites for whom no other standard therapy apart from paracentesis is available, irrespective of the primary epithelial cancer.

Kaplan-Meier estimates of overall survival in patients with gastric cancer.

