**Dokumenttyp:** journal article

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**Titel des Beitrags:**
177Lu-immunotherapy of experimental peritoneal carcinomatosis shows comparable effectiveness to 213Bi-immunotherapy, but causes toxicity not observed with 213Bi.

**Abstract:**
(213)Bi-d9MAb-immunoconjugates targeting gastric cancer cells have effectively cured peritoneal carcinomatosis in a nude mouse model following intraperitoneal injection. Because the ß-emitter (177)Lu has proven to be beneficial in targeted therapy, (177)Lu-d9MAb was investigated in this study in order to compare its therapeutic efficacy and toxicity with those of (213)Bi-d9MAb. Nude mice were inoculated intraperitoneally with HSC45-M2 gastric cancer cells expressing d9-E-cadherin and were treated intraperitoneally 1 or 8 days later with different activities of specific (177)Lu-d9MAb immunoconjugates targeting d9-E-cadherin or with nonspecific (177)Lu-d8MAb. Therapeutic efficacy was evaluated by monitoring survival for up to 250 days. For evaluation of toxicity, both biodistribution of (177)Lu-d9MAb and blood cell counts were determined at different time points and organs were examined histopathologically. Treatment with (177)Lu-immunoconjugates (1.85, 7.4, 14.8 MBq) significantly prolonged survival. As expected, treatment on day 1 after tumour cell inoculation was more effective than treatment on day 8, and specific (177)Lu-d9MAb conjugates were superior to nonspecific (177)Lu-d8MAb. Treatment with 7.4 MBq of (177)Lu-d9MAb was most successful,
with 90% of the animals surviving longer than 250 days. However, treatment with therapeutically
effective activities of (177)Lu-d9MAb was not free of toxic side effects. In some animals lymphoblastic
lymphoma, proliferative glomerulonephritis and hepatocarcinoma were seen but were not observed
after treatment with (213)Bi-d9MAb at comparable therapeutic efficacy. The therapeutic efficacy of
(177)Lu-d9MAb conjugates in peritoneal carcinomatosis is impaired by toxic side effects. Because
previous therapy with (213)Bi-d9MAb revealed comparable therapeutic efficacy without toxicity it
should be preferred for the treatment of peritoneal carcinomatosis.