Sensitizing tumor cells to radiotherapy

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Head and neck squamous cell carcinoma (HNSCC) is the fifth most common cancer worldwide. Tumor resistance to radio- and/or chemotherapy remains a significant clinical problem.

A team of researchers led by Nils Cordes, at Dresden University of Technology, Germany, has now identified a way to enhance the sensitivity of human HNSCC cell lines to radiation such that their growth is delayed in xenografted mice.

In the study, Cordes and colleagues determined that a beta-1 integrin/FAK/cortactin signaling pathway is crucial for HNSCC resistance to radiotherapy. Inhibiting beta-1 integrin sensitized HNSCC cells to radiotherapy and delayed tumor growth in xenografted mice. Thus, Cordes and colleagues suggest that targeting beta-1 integrin could be used in combination with radiotherapy and radiochemotherapy to increase the survival of patients with HNSCC.

More information: Beta-1 integrin/FAK/cortactin signaling is essential for human head and neck cancer resistance to radiotherapy, *Journal of Clinical Investigation.*

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