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Autor(en) des Beitrags: Heß, A K; Weichert, W; Budach, V; Tinhofer, I

Titel des Beitrags: [The role of microRNAs in head and neck squamous cell carcinoma: Biomarkers for prognosis, therapy selection, and novel therapeutics].

Abstract: Despite recent advances in radiochemotherapy, treatment of locally advanced head and neck squamous cell carcinoma is still challenging, and survival rates have improved only slightly. This is due to the high frequency of metastases and local and/or regional tumor recurrences that have acquired radio- or chemoresistance. MiRNAs regulate diverse processes in tumorigenesis, metastasis, and therapy resistance in head and neck squamous cell carcinoma. Hence, miRNAs are highly valued in biomarker studies. Establishment of the miRNA profiles of oropharyngeal tumors enables personalized treatment selection, since expression of distinct miRNAs can predict the response to two different radiochemotherapy regimens. Development of novel miRNA therapeutics has a high clinical potential for further improving treatment of cancerous disease. The use of nanoparticles with distinct surface modifications as miRNA vectors permits prolonged bioavailability, high efficacy in tumor targeting, and low toxicity. Nevertheless, the efficacy of miRNA therapy has only been shown in animal models to date.

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