Magnesium in Head and Neck Cancer

Is it a possible Biomarker for Tumor Treatment?

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Abstract—We investigated the hypothesis that patients with advanced head and neck cancer exhibit a decreased serum concentration of magnesium compared to the normal population. In July 2013 we measured the magnesium serum concentration of 18 patients with squamous cell carcinoma of the head and neck region. The control group consisted of 17 patients received tonsillectomy during the same period. Overall 14/18 patients with cancer have had Magnesium serum concentrations < 0.80 mmol/l (78%). The control group showed only two patients (12%) with serum levels below the cut off. This small controlled study supports the hypothesis that decreased Magnesium serum concentrations are typical for patients with advanced head and neck cancer. We could not show, that hypomagnesaemia is prognostic biomarker in head and neck cancer treatment.

Index Terms—Magnesium, head and neck cancer, hypomagnesaemia, cetuximab, chemotherapy, biomarker

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