The impact of oral supplement of Arg/Gln in patient with head-and-neck cancer undergoing chemoradiotherapy.

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Background and aims: Collagen synthesis is significantly enhanced by the oral administration of a mixture of arginine, and glutamine (Arg/Gln). In fact, arginine enhances immune function and promotes wound healing. Patients with head-and-neck cancer (HNC) undergoing concurrent chemoradiotherapy (CCRT) are at high risk for dysphagia, malnutrition, and immune-suppression. Accordingly, Arg/Gln, immune-enhanced nutrition can promote cellular immunity. We aimed to examine the impact of immune-nutrition diet on nutritional status, in addition to CCRT toxicities.

Methods: 10 patients with HNC, treated with CCRT were recruited. They were randomly assigned to the Arg/Gln supplement treatment group (7 for Group A) or the no supplement control group (3 for Group B). Primary endpoint of this study was the percentage of patients developing Grade 3 dermatitis. Secondary endpoints were the percentage of patients developing Grade 2 dermatitis, and the duration of each grade of dermatitis relative to the observation period.

Results: Although we could not demonstrate the effectiveness of the primary endpoint, the incidence of Grade 3 dermatitis, several positive results were revealed in this study. We demonstrated that Arg/Gln reduced the incidence of Grade 2 dermatitis, and shortened the duration of Grade 1 and Grade 2 dermatitis to 1week in group A and 3 weeks in group B.

Conclusions: Despite the small number of patients, use of Arg/Gln has been shown to be safe and can beneficially contribute to diminish risks of high-dose CCRT.

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