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The change of paradigm in initial therapy of head neck cancer

Otávio Alberto Curioni and Abrão Rapoport

Introduction: Due to advances in surgical techniques, radiotherapy and chemotherapy, there has been constant changes in the initial management of early and advanced head and neck cancer.

Objective: To evaluate paradigm changes along the time.

Data synthesis: Surgery evolved rapidly from the improvement in anesthetic techniques, antibiotics, blood replacement, new reconstruction procedures, management strategies of neck metastasis and laryngeal cancer. Recognized as an effective staging and therapeutic procedure, elective neck dissection diminished functional and aesthetic sequelae. Partial laryngectomies and endoscopic transoral laser resection could keep the function of speech and swallowing without definitive tracheostomy. Advances in creating algorithms calculation and distribution of more accurate dose enabled the development of dosimetry and quality control in radiotherapy, providing a more conservative approach. The radiotherapy with intensity modulation has high precision with better protection of organs at risk. Altered fractionation schemes can reduce the late toxicity with survival benefit. Tomotherapy, volumetric modulated arc therapy, stereotactic radiotherapy and FDG-PET CT are recent approaches. Induction and sequential chemotherapy is a key component in the treatment of locally advanced head and neck cancer. The receiver of Epidermal Growth Factor IgG1 monoclonal antibody (EGFR) showed significant clinical benefits in the treatment of locally advanced, recurrent and/or metastatic cancer.

Final comments: Thus, the treatment of head and neck cancer patients should be multidisciplinary and advances in strategies have improved the outcome.

arapoport@terra.com.br

Inhibitory effect of amniotic membrane proteins in HSP60 gene expression in HepG-2 hepatocarcinoma cell line

Alireza Nourazarian, Seyed Manuchehr Nourazarian and Majid Tozihi
Tabriz University of Medical Sciences, Iran

Introduction: In recent years, HSP90 has been studied intensively as a therapeutic target. Hsp90 is an abundant protein in mammalian cells which is responsible for the consolidation of a many of cellular pathways and processes. Human amniotic membrane (hAM) has recently been considered as an upcoming anti-cancer therapy. The aim of this study was investigation the effect of hAMP on the expression levels of HSP60 gene in HepG-2 Hepatocarcinoma cell line.

Material and methods: hAMPE were mechanically obtained, after quantification of proteins in hAMPE, their effect on the expression levels of HSP60 gene in HepG-2 Hepatocarcinoma cell line was evaluated. For each experiment, cells were incubated with 1 lg/L of hAMPE. The extraction of total cellular RNA, cDNA synthesis and Real Time PCR was done for all of samples. We used western blot analysis to elucidate the effect of hAMP on the level of Hsp60 protein expression. Statistical analysis was performed with SPSS software. Statistically comparisons were between the control group and treatment.

Results: The results showed have an effective role in decrease of Hsp-60 expression. Our results demonstrated hAMPE had more than 68% inhibition effects on the Hsp-60 expression. Western blot results show Hsp60 expression had been decreased about 56% ($P < 0.05$).

Conclusions: According to results, it would appear that inhibition of HSP60 by hAMPE can provide therapeutic opportunities in the field of cancer treatment. We suggest that further studies should attempt in vivo experiments on laboratory animals to investigate the efficacy of these proteins in biological environments.

alinour65@gmail.com