

with other available clinical and histopathological parameters of patients' tumors.

Materials and methods: Paraffin embedded tissue sections (N=30) of primary gastric adenocarcinoma, obtained following surgery, were randomly selected for this study. Immunohistochemical staining of p53 and Bcl2 proteins were carried out using monoclonal antibody for p53 (DO-7; Dako) and Bcl2 (124; Dako), and LSAB2 detection kit (Dako-Denmark).

Results: Positive immunostaining for p53 and Bcl2 were observed in 80% and 43.3% of tumor samples, respectively. Significant correlation was found between p53 and Bcl2 expression ($p=0.013$). Positive p53 immunostaining also correlated with tumor grade ($p=0.001$), tumor size ($p=0.065$) and cigarette smoking ($p=0.004$), but no significant association was observed with age and gender of patients. Unlike p53, a positive correlation between gender and Bcl2 expression was observed in this study ($p=0.057$).

Conclusions: Our data showed that 46.6% of patients with positive p53 were Bcl2 negative indicating a double gene alteration in this study that requires special attention to their treatment regimen. These data indicate that there is a close association between p53 protein expression with tumor size and histological grade and also smoking habit of patients.

P29

Immunohistochemical analysis of thymidylate synthase (TS) and thymidine phosphorylase (TP) in esophageal cancer patients

E. Azizi¹, B. Minaee³, M.H. Ghahremani¹, S.N. Ostad¹, M. Jamali⁴

¹Molecular research Lab., Dept. of Pharmacology and Toxicology, Faculty of Pharmacy, ²Dept. of Pharmacology and Toxicology, Pharmaceutical Sciences Unit, Islamic Azad University and ³ Dept. of Anatomy and Embryology, ⁴Dept. of Pathology, Faculty of Medicine, Tehran University of Medical Sciences (TUMS), Tehran, Iran

Background: Esophageal cancer represents the third most common gastrointestinal malignancy and ranks among the ten most common cancers worldwide. Gene expression levels of thymidylate synthase (TS) and thymidine phosphorylase (TP) are associated with response to chemotherapy using 5-FU and also patients' survival. Therefore, we decided to determine the TS and TP status in esophageal carcinomas and to correlate molecular alterations with clinicopathological findings.

Materials and methods: Tumor samples from 29 surgically resected esophagus squamous cell carcinoma and adenocarcinoma were analyzed by immunohistochemical techniques using primary antibodies for TS (TS 106 Labvision Corporation) and TP (P-GF 44C Labvision Corporation) and LSAB2 detection kit (Dako-Denmark).

Results: TS and TP were positive in 59.3% and 74.1% of tumor samples, respectively. Positive TS ($p=0.035$) and TP ($p=0.021$) were significantly correlated with cigarette smoking and relatively with nodal status ($p=0.083$). Unlike TS, a positive correlation between grade and TP expression was observed ($p=0.021$). There was no significant association between TS or TP immunostaining with tumor type, tumor size, age, and gender of patients.

Conclusions: Over expression of both TS and TP may indicate a poor prognosis for patients with esophageal cancer. Our data showed that 40.7% and 25.9% of patients were TS and TP negative, respectively. This indicates gene alterations in these patients that obviously affect their response to 5-FU based chemotherapy and their prognosis. Therefore, we highly recommend immunohistochemical analysis of tumor samples for TS and TP status as a valuable tool for selection of patients who will better respond to chemotherapy.

P30

Evaluation of thymidylate synthase (TS) and thymidine phosphorylase (TP) expressions in Iranian esophageal cancer patients

E. Azizi¹, S. Arbabi^{1,2}, B. Minaee³, M.H. Ghahremani¹, S.N. Ostad¹, M. Jamali⁴

¹Tehran University of Medical Sciences (TUMS), Faculty of Pharmacy, Dept. of Pharmacology and Toxicology, Molecular Research Lab.; ²Azad University, Pharmaceutical Sciences Unit, Dept. of Pharmacology and Toxicology; ³Tehran University of Medical Sciences (TUMS), Faculty of Medicine, Dept. of Anatomy and Embryology; ⁴Tehran University of Medical Sciences (TUMS), Faculty of Medicine, Pathology, Tehran, Iran

Gastrointestinal malignancies including esophageal cancers rank among the ten most common cancers worldwide. Expressions of thymidylate synthase (TS) and thymidine phosphorylase (TP) have been reported to be associated with response to chemotherapy using Fluoropyrimidines, in particular the 5-FU, and also patient survival. Therefore, we decided to determine the TS and TP status in esophageal carcinomas in Iranian patients and to correlate molecular alterations with clinicopathological findings. Tumor samples from 29 surgically resected esophagus squamous cell carcinoma and adenocarcinoma were analyzed by immunohistochemical techniques using primary antibodies for TS (TS 106, Labvision Corporation) and TP (P-GF 44C, Labvision Corporation) and LSAB2 detection kit (Dako-Denmark). Our results showed that the TS and TP proteins were positive in 59.3% and 74.1% of tumor samples, respectively. Immunostaining patterns of TS ($p=0.035$) and TP ($p=0.021$) were significantly correlated with cigarette smoking and relatively with nodal status ($p=0.083$). A significant correlation was observed only between grade and TP expression ($p=0.021$) but not with TS expression. No significant association was found between TS or TP expressions with tumor type, tumor size, age, and gender of patients. Due to observed gene alterations in these patients we recommend immunohistochemical analysis of tumor samples for selection of patients who will be most probably benefited from 5-FU based chemotherapy regimens.