

## **Discussion**

Worldwide, gastric carcinoma is one of the commonest cancers after lung cancer and a major cause of mortality and morbidity, especially in developing countries<sup>(10)</sup>.

The etiology of gastric carcinoma includes both genetic factors and environmental factors such as *H.pylori*. Multiple genetic alterations are detected not only in gastric carcinoma, but also in tumors at other sites<sup>(11)</sup>. In gastric carcinoma, p53 is present solely in tumor cells while it is not so in adjacent normal stomach mucosa. It is also present in dysplastic epithelium surrounding tumor in varying degrees. Joypaul et al reported that there was 20% staining with p53 in severe dysplasia<sup>(12)</sup>.

In this study, p53 overexpression was positive in (44%) of gastric carcinoma cases, which is compatible with other studies in Iraq<sup>(13)</sup>, Iran<sup>(14)</sup>, and Turkey<sup>(15)</sup>.

This study showed that there was no significant correlation between p53 overexpression and patient's age. This result is nearly compatible with the results from Iraq<sup>(13)</sup>, Iran<sup>(14)</sup>, Turkey<sup>(15)</sup>, and also with other studies<sup>(11, 16, 17)</sup>. Also no significant correlation was found between p53 overexpression and sex of the patient. The slightly higher expression rate in males than females could be attributed to the higher incidence rate of gastric carcinoma in males compared to females, similar results were seen in different studies<sup>(11, 13, 14, 15, 16, 17)</sup>.

Regarding the relation of p53 immunostaining with the tumor site, although the results were statistically not significant, a higher rate of p53 positivity was seen in gastric carcinoma cases located in antrum, this could be explained by the fact that majority of gastric cancers cases (80%) were located in antrum. Fléjou et al found p53 positivity rate was higher in

cases located in the cardia and concluded that the tumors located in the cardia exhibited higher rates of aneuploidy than those located in the antrum. They ascribed this difference to different molecular mechanisms leading to malignant transformation in carcinomas located in the cardia and the antrum and proposed that antral tumors developed mostly in response to environmental factors<sup>(18)</sup>. In other studies, no correlation was found between tumor location and the rate of p53 positivity<sup>(16,17, 19)</sup>.

In the literature, it was reported that there was no significant relationship between p53 positivity rate and growth pattern<sup>(11, 16, 17)</sup>. This result is similar to a study in Turkey<sup>(15)</sup>, while in this study p53 positivity rate was higher in ulcerative growth pattern type.

In various studies, the rate of p53 positivity was found to be different in varying histological types of gastric carcinoma. The positivity rates were higher in intestinal type gastric carcinoma, varying between (50% and 70%). This rate was lower in diffuse type gastric carcinoma, being (12-27%)<sup>(11, 16, 17, 18, 20)</sup>. However, some of these studies had found a significant relationship between p53 overexpression and histological type<sup>(11, 18, 20)</sup>; others did not<sup>(16, 17, 21)</sup>. These figures are congruent with those in the literature and suggest that p53 may play a part especially in the formation of intestinal type carcinoma. In a study in Turkey<sup>(15)</sup>, the positivity rates were higher in intestinal type carcinoma, whereas in Iran<sup>(14)</sup>, they found that the positivity rates were higher in diffuse type carcinoma. In the present study, p53 positivity was higher in intestinal type compared to diffuse type.

Regarding the correlation between p53 overexpression and tumor grade,