Summary

This study aims at histopatholgical study of gastric carinoma lesions, to determine of the prognostic value of P_{27} expression and AgNORs quantitification in patients of gastric carcinoma and to compare and correlate the findings with other clinicopathological variants such as, tumor grade , stage and 2 year-survival. Statistical analysis and correlations were made for all these variants.

This retrospective study was carried upon 49 cases of different types of gastric carcinoma and 6 cases of apparently normal gastric mucosa were taken as control during the years between 2003 to 2005 .

The gastric carcinoma cases included 23 adenocarcinoma cases , 11 mucoid adenocarcinoma cases and 15 signet ring cell carcinomas cases.

The studied cases included 32 males and 17 females with male to female ratio 1.75:1 and age ranged between 33 to 79 years (mean 55.5, Sd±12.11)

 The studied gastric carcinomas were divided into 18 low grade tumors and 31 high grade tumors. Grading was done according to WHO grading system (2004).Nine cases (39.1%) of Adencarcinoma, 7 cases (63.6%) of mucinous adenocarcinoma and all cases of signets ring cell were high grade.

TNM staging system was applied for studied carcinoma cases; eight cases encountered in stage (I) group, 5 cases encountered in stage (II) group, 20 cases encountered in stage (III) and 16 cases encountered in

stage (IV) group. So the majority (73.5%) of the studied 49 cases were stage III and IV of the different histopathgloical types.

Two year survival was recorded for the studied (49) carcinoma cases .Nighteen cases (38.8%) were disease free 2 years after gastrectomy while 30 cases (61.2%) had disease recurrence or died. In this study, a highly statistically significant correlation was found between L.N metastasis, distant metastasis, depth of tumor invasion, TNM stage, histological grade and 2-year survival.

P_{27} protein expression in control and carcinoma cases was detected by immuno histochemical staining technique as a brown immunostaing of cell nuclei. The cases were divided according to cut of value (=47) into 2 groups; group of low or absent P_{27} expression ($\leq 47\%$) and group of high expression (>47%).

This study revealed a statistically significant correlation between histopathlogical grade and P_{27} expression as (66.7%) of low garde cases and only (25.8%) of high grade cases showed high P_{27} expression (> 47).

Also a statistically significant correlation was found between 2 year survival and P_{27} expression as 63.1% of 2-year free cases showed high P_{27} expression while 73.3% of cases who had disease recurrence or died showed low or absent P_{27} expression.

However, No statistically significant correlation was found between TNM stage. LNs metastasis, depth of invasion or distant metastasis and P_{27} expression.

proliferative activity was evaluated by quantitification of mean AgNORs counts/cell. The median value of (5.91) was taken as a cut off point to divide cases into 2 categories; category of low score (<5.91) & category of high score (> 5.91).

A statistically significant correlation was found between All clinicopatholgical variables (histopathological grade, depth of invasion lymph node metastasis , distant meatstasis and TNM stage) and 2 year survival and mean AgNORs counts per cell .

Conclusions

-Gastric carcinoma is a malignant tumor of a poor prognosis.

-TNM staging system is the best histopathological parameter for estimating tumor progression and outcome of patients with gastric carcinoma.

-In gastric carcinoma, low p27 protein expression is associated with poorly differentiated tumors, and is a negative prognostic factor of potential clinical outcome.

-AgNORs count was highly statistically significant with grade, TNM stage, and lymph node metastasis, depth of tumor invasion, distant metastasis and 2-year survival. It can be considered an independent prognostic factor in gastric carcinoma.

-p27, a cyclin dependent kinase inhibitor, is a negative regulator of cell cycle progression and considered to be a tumor suppressor gene. In malignant tumors, loss of p27 function is caused mainly by accelerated its degradation leading to high aggressiveness and poor prognosis of the tumors.

-AgNORs count was superior to p27 immunoassaying method in detecting the prognosis of gastric carcinoma as it is cheap, simple, quick and reliable adjuvant to routine histopathology.