# SUMMARY

# SUMMARY

Thyroid carcinomas represent 90.5% of all endocrine malignancies in Egypt and constitute one of the most common cancers especially in children with previous radiation exposure ***(El-Bolkainy, 2000)***.

The aim of the present study was to analyze a variety of human thyroid tumors for the presence of Cyclin D1, Bcl-x and CD44s antigens expression using the strept avidin-Biotin peroxidase technique on formalin-fixed, paraffin embedded tissue sections. Results of staining for Cyclin D1, Bcls-x and CD44s were correlated with the patients clinico/pathological data such as age, gender, tumor grade, TNM stage, local recurrence and patients survival. One hundred and one specimens from patients with primary thyroid neoplasms were available for this study. These cases were collected from the pathology department in Benha Faculty of Medicine, Zagazig University & National Cancer Institute and Armed Forces Hospital during the period between February 1995 to March 1998. The cases classified as benign and malignant according to the modified WHO classification ***(Hedinger et al., 1989 & Fletcher, 2000)***. Benign cases were 20 adenomas, malignant cases were 81, including 23 cases of papillary carcinoma (PC), 21 cases of follicular carcinoma (FC), 10 cases of Hurthle cell carcinoma (HC), 17 cases of sporadic medullary carcinomas (MC) and 10 cases of anaplastic thyroid carcinomas (AC). Seven cases of apparently normal thyroid tissue adjacent to benign tumor area were taken as control.

The age of all studied patients ranged between 19 and 80 years with a mean age of 42.3 years. Mean age of patients with adenomas was 29.7 years and ranged between 19 and 42 years. The mean age of patients with malignant tumors was 41 years. Among the examined cases, 62 cases were females and 39 were males with male to female ratio 1:1.5.

All the examined 7 control cases showed negative immunostaining for Cyclin D1 and Bcl-x and positive immunostaining for CD44.

Seventy percent of the examined benign cases (adenomas) showed positive immunostaining for Cyclin D1, 90% showed positivity for Bcl-x and 65% showed high ( 67%- 100%) CD44 expression. Cyclin D1 and Bcl-x showed (100%) expression in locally recurrent and atypical adenomas which was statistically highly significant ($P< 0.01$).

Papillary carcinoma, follicular carcinoma, Hurthle cell carcinoma and medullary carcinomas examined showed expression of Cyclin D1 and Bcl-x in all cases (100%) of poorly differentiated tumors which was statistically significant ($P<0.05$).

Cyclin D1 expression was present in all locally recurrent cases of Hurthle cell carcinoma (100%) which was statistically significant ($P<0.05$) while Bcl-x expression present in all locally recurrent papillary carcinoma cases (100%) which was statistically significant ($P< 0.05$).

SVI medullary carcinomas showed reduced Cyclin D1 expression (75%) in relation to SI, SII and SIII medullary carcinomas that showed Cyclin D1 expression in 100% of cases. The difference was statistically significant ($P< 0.05$).

All cases of anaplastic carcinoma showed positivity for Cyclin D1 (100%) and Bcl-x (100%) while only (20%) of them showed high (67%-100%) CD44 expression. The difference was statistically significant ($P<0.05$).

Cyclin D1 and Bcl-x positivity was higher in died patients and this was statistically highly significant ($P<0.01$). Conversely, higher (67%-100%) CD44 expression was present in alive patients which was statically highly significant ($P<0.01$).

CD44 expression showed inversely proportionate correlation with the tumors TNM stage in the examined malignant cases-which was statistically significant ($P < 0.05$).

# CONCLUSION & RECOMMENDATION

- Cylcin D1, Bcl-x may be used to differentiate between non neoplastic and neoplastic thyroid lesions.
- From the practical point of view, Cyclin D1, Bcl-x and CD44 scores may be considered as essential prognostic factors in thyroid neoplasms that must be combined with pathologic variables for a better predication of patients out come.
- Simultaneous determination of Cyclin D1 and Bcl-x is more serviceable than either alone for the precise evaluation and prognosis for thyroid carcinoma patients.
- Cylcin D1 expression could be superior on CD44s and Bcl-x in medullary carcinoma assessment as it is significantly correlated with both tumor grade and stage.
- Cyclin D1 overexpression may be considered a predicator for local tumor recurrence in Hurthle cell carcinoma patients.
- Bcl-x overexpression may be considered a predicator for local tumor recurrence in papillary carcinoma patients.
- Cancer registry programs showed be developed and applied in all institutions dealing with cancer cases. This would allow data transfer and comparison of research results between different studies.