

Cyclin A Immunohistochemistry As A Potential Prognostic Marker In Wilms Tumor

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ABSTRACT

Wilm's tumor (WT) is one of the most common malignant tumors and accounts for more than 90% of all malignant [kidney neoplasms](#) in children. Cyclin A overexpression is found in a variety of human tumors and correlates with unfavorable outcome.

This is a retrospective study done on 22 cases of Wilms tumor collected from South Egypt Cancer Institute, Assuit University, Egypt in a time between May 2014 and May 2021 with a follow up period ranged from 17 months up to 80 months and mean \pm SD was 42.9 ± 18.7 m.

ranged from a minimum of 8 months to a maximum of 13 years. Patients' age old. 59.1% of the studied cases were >24 months. Male to Female ratio in the studied cases was 1.4: 1. 14 patients were from Assiut, 5 patients were from Qena, 2 patients were from Aswan and 1 patient was from Sohag.

The majority of the cases showed triphasic tumor components representing 90.9% of all cases. 77.3% of the cases were mixed (didn't show predominant component) & 9% of the cases showed predominant blastemal component & 13.5% of the cases showed predominant epithelial and/or mesenchymal component.

Features of focal anaplasia (unfavorable histology) were only found in 1 case (4.5%), the remaining 21 cases (95.5%) didn't show features of anaplasia (favorable histology). CIC (represented by necrosis) was found in 11 cases out of the 22 studied cases (50%). Tumor necrosis area $>66\%$ was found in 18.2% of the cases, $<66\%$ in 31.8% of the cases. 50% of the cases didn't show necrotic area.

Chemotherapy regimens ranged between 2 drug regimens in 45.5% of the patients, 3 drug regimens in 36.4% of the patients and 4 drug regimens in 18.2% of

ranged between 18 w in 45.5% of the patients, the patients. Duration of treatment 27 w in 36.4% of the patients and 34 w in 18.2% of the patients. 27.3% of the patients were treated with in addition radiotherapy.

Tumor size ranged from 8-20 cm before preoperative chemotherapy and from 3-17 cm after preoperative chemotherapy of the studied 22 cases of Wilms tumor. Regressive size was detected in 68.2% of the studied cases , stationary size was detected in 13.6% of the cases and progressive size was detected in 9.1% of the cases.

In our study Cyclin A expression was negative in 13.6% of cases, Intermediate in 45.5% of cases and strong in 40.9% of cases and it showed a statistically significant relation with each of the following parameters, associated venous thrombus (P value 0.055), diastant metastasis (P value 0.055) and clinical course of the tumor (size changes after preoperative chemotherapy) (P value 0.02). No statistically significant relation was found between STC2 and other clinicopathological parameters.

In our study, Clinical course (size change after preoperative chemotherapy) the only significant factor influencing OS of Wilms tumor cases (P value 0.008).