

Original Article: Neuroendocrine Tumors, Possible Targets for Tyrosine Kinase Inhibitor Therapy

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ABSTRACT Background:

CD117

is a tyrosine kinase receptor encoded by c-kit proto-oncogene. It is expressed during normal development in some tissues and in a subset of neoplasia especially gastrointestinal stromal tumors (GISTs). It has been demonstrated that CD117 expression is necessary for the normal development of mast cells, melanocytes, some hematopoietic cells, and germ cells. The role of CD117 in normal hepatocyte maturation and regeneration of injured liver cells has also been shown. Overexpression of this receptor has been observed in some types of tumors, including lung, breast, skin, uterus, bladder and ovarian cancers, leukemias, germ cell tumors, Ewing sarcoma, and gastrointestinal stromal tumors (GISTs).

Objective:

The objective of this study was to determine the frequency of CD-117 expression in neuroendocrine tumors of different grades

Methods:

A Descriptive, Cross-sectional study was performed on 135 cases of neuroendocrine tumors of different grades from different sites at histopathology department, Chughtai Institute of Pathology, Lahore. The antibody used was polyclonal rabbit anti-CD-117 antibody from DAKO.

Results:

In our study, out of 135 cases, 39.26%(n=53) were between 20-50 years of age whereas 60.74%(n=82) were between 51-80 years of age, mean+sd was calculated as 53.11+13.96 years, 53.33%(n=72) were male and 46.67%(n=63) were females, mean size of tumor was calculated as 2.82+1.70cm, frequency of CD-117 expression in neuroendocrine tumors was 22.96%(n=31). **Conclusion:** We concluded that the frequency of CD-117 expression was higher in neuroendocrine tumors having a higher histologic grade, however, other local studies are required to validate our results