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Cyclin D1, E-cadherin, EGFR, HER- 2, Ki67, and p53 tumor marker expressions in neoplastic and non -neoplastic gall bladder lesions and their clinicopathological correlation

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Abstract

Background: Gall bladder carcinoma (GBC) corresponds to 1.13 per million in the US. The incidence is high in females and it represent almost three fourths of GBC victims and their highest incidence rate occur in this region, yet only few immunomarker studies are available from this high-predisposing region. GBC has also been reported to show a variable expression pattern among different ethnic groups. GBC results via the dysplasia-metaplasia sequence and the 5-year survival rate for GBC is 32% and for the advanced stage it is only 10%. Current studies have focused on the importance of Cyclin D1, E-cadherin, EGFR, HER- 2, Ki67, and p53 immunomarkers in the development and prognosis of GBC. One of the most genetic aberrations is ascribed to be HER-2 in GBC. HER-2 and other immunomarkers Cyclin D1, E-cadherin, EGFR, Ki67, and p53 can be easily assessed by standard immunohistochemistry methods. However, concrete results have not been obtained due to a limited number of resectable GBC cases presented at the hospitals. We, therefore, attempt to evaluate the immune-expression of these markers in GBC cases and determine their prognostic value in the selected GBC cohort.

Results: The average age of the patient cohort was 53 years, and 55% of them were females. 62% of cases had gallstones of different sizes and the average tumor size was 45 mm. All the cases were mostly histologically proved to be adenocarcinoma. About 91/100 of the patients showed staining for HER-2 ,and 90/100of the tumor cases showed positivity for p53, 94/100 of the tumor cases showed positivity for Cyclin D1, 62 /100 of the tumor cases showed positivity for E-cadherin, 93 /100 of the tumor cases showed positivity for EGFR, and 87 /100 of the tumor cases showed positivity for Ki67. Contingency table analysis by χ 2 tests showed that HER-2, Cyclin D1, E-cadherin, EGFR, positivity showed statistical significance with clinicopathological factors ($p = 0.02$). Hence their expressions are considered to be significant prognostic factors in the selected GBC cohort.

Conclusions: Consequently, it can be summed up that there is an important need to search for immuno- markers of GBC, which will not only diagnose and prognosticate the disease but also help in choosing the appropriate mode of therapy and may give us an opportunity to make our basic understanding of GBC pathology clearer. Thus, our study assesses the expression of important immunomarkers involved in the pathogenesis of GBC, correlates it with clinicopathological parameters and establishes it as an independent prognostic factor in GBC.

Biography

Dr. Anshoo Agarwal is currently working as Professor and Chairperson at Department of Pathology, Northern Border University, Arar Kingdom of Saudi Arabia. She received her Bachelor of Medicine & Bachelor of Surgery from King George's Medical College Lucknow. Dr. Anshoo Agarwal received her M.D in Pathology from LLRM Medical College / Ch. Charan Singh University. She is an Associate professor and Discipline Coordinator in University Technology MARA, Malaysia. Dr. Anshoo Agarwal has served on many scientific memberships like Life member of Indian Association of Pathology and Microbiology, Member of International Academy Pathology, Life member of Indian Society of Hematology & Transfusion Medicine, Emirates Medical Association Pathology Society. Dr. Anshoo Agarwal has more than 80 publications. Dr. Anshoo Agarwal is editorial member of 3 journals and has many reviewed publications. Dr. Anshoo Agarwal research interests include Advance Hematology & Immunohematology, Breast cancer and anticancer vaccines..

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