EuroSciCon

International Conference on
Immuno - Oncology and Cancer Science

July 23-24, 2018
Amsterdam, Netherlands

Arch Can Res 2018, Volume: 6
DOI: 10.21767/2254-6081-C2-009

HUMAN PARVOVIRUS B19 IN CHILDHOOD ACUTE LMPHOBLASTIC LEUKEMIA IN BASRA

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Background: A study was conducted to investigate the association of human parvovirus B19 (HPV-B19) infection with the onset of acute lymphoblastic leukemia (ALL) and its effect on TEL-AML-1 fusion gene and the presence of mutant p53 in an attempt to prove the associated carcinogenic potential of human parvovirus B19 on children suffering from ALL attending the oncology unit at Basrah hospital for pediatric and gynecology during the period from May 2009 to April 2010.

Materials & Methods: A total of 100 blood samples were collected from 40 newly diagnosed ALL cases and 60 healthy children to serve as control matched by age and sex. Human parvovirus B19-IgG and anti-p53 antibody were detected by an enzyme immunoassay (ELISA) and TEL-AML-1 fusion gene was detected by reverse transcriptase- polymerase chain reaction (RT-PCR) on extracted RNA from fresh blood samples using specified primers.

Results: Higher proportion of human parvovirus B19 positive cases was found in leukemic patients (47.5%) as compared to 20% in the control group ($P<0.05$). There was significant association between TEL-AML-1 translocation and HPV-B19 infection as 71.4% of TEL-AML-1 translocation positive cases in the study population had HPV-B19 IgG. On the other hand, there was no association between HPV-B19 infections and p53 gene mutation in the studied patients.

Conclusion: HPV-B19 infection is common and highly distributed in our locality with more common prevalence among leukemic patients with significant association between HPV-B19 and TEL-AML-1 fusion gene.

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