Evidence-based assessment of the burden of infection related solid tumors

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Introduction: Cancer is a worldwide progressively increasing problem. Efforts are exerted to understand the etiological factors predisposing to malignancy. Infection is one of the main causes of cancer; several oncogenic viruses, bacteria and even parasite have been identified. Understanding the role of infection in causing cancer helps health authorities to adapt infection prevention and control strategies.

Aim of work: To provide evidence based assessment for the contribution of several infectious agents in causing liver, stomach, urinary bladder, head and neck and cervical cancers.

Methods: In this case control study, 181 out of 926 patients attended Medical oncology department, faculty of medicine, Zagazig University, during the period of June 2013 to June 2015, were included. To diagnose infectious agents in patient group, Real time PCR was used to diagnose HCV and HBV. PCR to detect DNA of HPV, Schistosoma haematobium and H. pylori, in the tumor mass.

Results: The studied infectious agents cause 19.5% of the overall cancer cases attends the department, and 81.2% of cancer at the studied sites. According to our results, HCV was detected in 90.2% of HCC, while, HBV was detected in 5% of cases. H. pylori DNA was found in 77% of gastric cancer. S. haematobium was found in 37.5% of all urinary bladder cases. Finally, HPV16 DNA was detected in 56.2% of head and neck cancer and 66.6% of cervical cancer.

Conclusion: Infections play an important role in the pathogenesis of cancer in our population. Better attention to Infection prevention and control programs can thus contribute significantly in decreasing the burden of malignant diseases.