

Chronic Inflammation and Carcinogenesis

Pezhman Alavinejad¹ and Amin Sabbaghan²¹Alimentary Tract Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran²GI Fellowship, Ahvaz Imam Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran***Corresponding Author:** Pezhman Alavinejad, Associate professor of Gastroenterology and Hepatology, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.**Received:** June 21, 2019; **Published:** July 26, 2019**DOI:** 10.31080/ASGIS.2019.02.0066

Introduction

As an approved concept, chronic accumulation of leukocytes and inflammatory mediators in background of chronic inflammation, predispose susceptible cell to mal genesis and neoplastic transformation [1,2]. This condition occurs when the generation of free radicals and active intermediates in an organ exceeds the system's ability to neutralize and eliminate them [3]. Chronic inflammation could result from a variety of factors including bacterial, viral and/or parasitic infections, chemical irritants and non-digestible particles. The longer the inflammation persists, the higher the risk of associated carcinogenesis [4,5].

Several inflammatory mediators such as TNF- α , IL-6, TGF- β , and IL-10 have been shown to participate in both the initiation and progression of cancer [6]. In this regard, measurement of serum acute phase reactant (APR) levels is useful because their abnormalities generally reflect the presence and intensity of an inflammatory process. However, APR measurements in clinical practice are not specific to any particular disease, nor can they distinguish infection from other causes of acute and/or chronic inflammation [7]. The most widely used indicators of the acute phase response are the erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels. The causes of elevation of these indicators include systemic and localized inflammatory and infectious diseases, malignant neoplasms, tissue injury/ischemia and trauma [8,9]. Measurement of APRs may be helpful in assessing the prognosis in some patients with malignancy, assessing the presence or absence of tumor recurrence and distinguishing a clonal growth from a reactive process [10]. This concept further emphasizes the importance of cause and treating chronic inflammation that is predisposing factor for large number of poor outcome conditions including GI malignancies [11].

We should highlight the road map for young researchers to put step in the way, which would result in further determination of exact role of each mediator and inflammatory process and human capability to control many poor conditions to achieve a better future as harvest.

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