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LETTER TO THE EDITOR

"*JAK2* V617F Mutation in Cervical Cancer Related to HPV & STIs" - Letter

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Dear Editor:

In a recent issue of the *Journal of Cancer Prevention*, Abdolmaleki and Sohrabi investigated the frequency of the *JAK2* V617F mutation in patients with cervical cancer, proposing that polymorphisms in genes encoding elements of the intracellular JAK-STAT signalling pathway may contribute to oncogenesis through an immunomodulatory effect [1]. Several aspects of this study require extensive explanation and clarification.

Firstly, the authors have selected the *JAK2* p.V617F (c.1849G>T; reference sequence NM_004972.3) which is not a polymorphism as continually stated, but the most common somatic, driver mutation of the classical myeloproliferative neoplasms (MPN) of polycythemia vera, essential thrombocythemia and primary myelofibrosis. This acquired mutation, located in exon 14 (not exon 12) of the *JAK2* gene, causes constitutive activation of JAK-STAT signalling mediated by hematopoietic growth factors resulting in proliferation of various myeloid cell lineages [2]. Selection of this acquired molecular marker to correlate with cervical cancer therefore appears highly erroneous and requires justification. Secondly, in order to detect the *JAK2* V617F, the authors use a restriction fragment length polymorphism (RFLP) technique that detects the presence of the G>T transversion. This technique has been demonstrated to be highly inefficient due to incomplete restriction enzyme cleavage, particularly at low *JAK2* V617F levels and therefore, assigning positivity and subsequent mutation zygosity would be extremely challenging [3]. Numerous real-time PCR approaches exist for the detection of the *JAK2* V617F and given the availability of this methodology to the authors, the selection of an RFLP approach appears somewhat confounding [4]. Furthermore, the authors report the presence of a heterozygous *JAK2* V617F in 68 (34.9%) of all study participants in Table 2, a strikingly disproportionate high number, lending further evidence for a largely false-positive identification of this mutation. Finally, if these study participants truly harbor the *JAK2* V617F, did any possess other clinical, hematological or laboratory evidence of a co-existing MPN in addition to cervical cancer? If so, further information needs to be provided.

While polymorphisms in immune mediators, including those of *JAK2* such as rs10815144 and rs12349785, have been previously associated with the risk of cervical cancer [5], the rationale for examining the MPN-associated *JAK2* V617F with such a problematic methodology in cervical cancer pathogenesis appears unconvincing.

CONFLICTS OF INTEREST

No potential conflicts of interest were disclosed.

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