

LETTER TO THE EDITOR

ARTICLE INFO

Article history:

Received 21 May 2012

Accepted 23 May 2012

DOI:10.5055/jom.2012.0108

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AFFECT OF GENETIC POLYMORPHISMS ON PAIN PERCEPTION AND PAIN MANAGEMENT IN LUNG CANCER SURVIVORS

Dear Editor:

A recent article by Simone et al. about analgesic utilization and barriers to optimal pain management in lung cancer survivors was highly thought provoking.¹ Interestingly, recent research indicates that pain perception in lung cancer survivors may be significantly influenced and modulated by genetic polymorphisms.

For instance, rs1799964 and rs5277 single nucleotide polymorphisms in the PTGS2 and LTA genes predispose individuals with pulmonary cancers to accentuated perception of pain.² Lung carcinoma survivors with lower pain thresholds can be identified by the genetic analysis of the above genes. Similarly, rs8904 polymorphism of the NFKBIA gene increases the perception of pain in lung cancer survivors.³

Polymorphisms of the cytokine genes also influence pain thresholds in lung cancer survivors. For instance, those who express the rs1800629 polymorphism of the TNF α gene report higher severity of pain.³ Similarly, the opioid requirement for effective pain control is nearly five times greater in lung cancer survivors who express the CC genotype of the IL-6 gene in contrast to those who express

the GG genotype of the same gene.⁴ Similarly, Caucasian lung cancer survivors with the IL-8-251T/A polymorphism report higher pain severities.⁵ Interestingly, higher levels of pain is reported by individuals who were newly diagnosed with lung cancer and who continue to smoke even after the diagnosis is made in comparison to those who quit smoking after a diagnosis of malignancy is made.⁶

The above examples clearly illustrate the influence of gene polymorphisms on pain perception in lung cancer survivors. Hopefully, genetic analysis will increase over the next few years and help us identify those patients who may require higher levels of pain control.

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