

### **Carcinoembryonic Antigen (CEA) levels in Hookah smokers, cigarette smokers and non-smokers - A comment**

Madam, I read with interest the recent article by Sajid and colleagues (J Pak Med Assoc, Dec 2007) about exposure to CEA among different types of smokers and non-smokers.<sup>1</sup> The authors report in the abstract that levels of CEA were significantly higher in cigarette smokers than in non-smokers and hookah smokers and they report a p value of <0.0067. This p level according to the authors' Table 1 (page 597) belongs to the comparison between cigarette smokers and non-smokers, but not for cigarette and hookah (p=0.61), or the three groups.<sup>1</sup> Yet the authors conclude in the abstract that the mean levels of CEA among waterpipe smokers are lower than cigarettes smokers (see conclusions, Abstract, page 595). In addition, levels of CEA are age-related<sup>2</sup>, so the comparison between CEA levels should be adjusted for age to

be valid. Given these facts, I do not think that the comparative conclusions made in the abstract about exposures associated with cigarette and hookah smoking are substantiated.

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#### **References**

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2. Alexander JC, Silverman NA, Chretien PB. Effect of age and cigarette smoking on carcinoembryonic antigen levels. JAMA 1976; 235(18):1975-9.