The effects of cigarette smoke nanoparticles in the colorectal carcinogenesis of wistar rats

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Abstract	Smoking cigarette is one of risk factors for developing colorectal carcinoma. Various researches have been made to suppress the toxicity of cigarette smoke. One of such effort is to reduce the size of cigarette smoke particles using nano water solution containing aromatic groups and EDTA. This study aims to assess the effects of this cigarette smoke nanoparticle regarding colorectal carcinogenesis. The experimental study was carried out with sequential post test only control group design. Thirty Wistar rats were divided into 3 groups: exposure to cigarettes smoke, exposure to smoke of cigarettes containing nano water solution and control for 14 weeks and 28 weeks. Colorectal epithelial morphology was assessed on the histopathology examination, whereas the expression of APC, KRAS, MSH2, MLH1, and p53 was assessed on immunohistochemistry procedure. Our results showed that cigarette smoke nanoparticles had better effects regarding colorectal epithelial morphology, especially through the increased expression of APC.
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Author	Dr dr. DODY NOVRIAL, S.Ked, Sp.P.A, M.Si.Med