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The effect on histomorphology of lungs in fluconazole and vitamin E treated Sprague Dawley rats with septic shock

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Fluconazole is a subclass of triazole antifungal agents, is available as oral tablets, powder or for oral suspension and as a sterile solution for intravenous administration. Fluconazole is designated chemically as 2, 4-difluoro- α , α 1-bis benzyl alcohol in the form of white crystalline solid which is slightly soluble in water and saline. Fluconazole oral suspension contains 350 mg or 1400 mg contains sucrose, citric acid anhydrous, sodium benzoate, sodium citrate, colloidal, silicon dioxide, titanium dioxide, xanthan gum and natural orange flavor. After reconstitution with 24 ml of distilled water or purified water each ml of reconstituted suspension contains 10 mg or 40 mg of fluconazole. Animals are divided into 4 groups. The rats of group-A were taken as control group. In group-B rats are kept nil per orally at 12 hours prior to induction of septic shock produce by *Candida albicans*. Group-C animals are administrated with fluconazole at doses of 3 mg/kg, 10 mg/kg and 30 mg/kg after the septic shock produce by *Candida albicans*. Since fluconazole at a higher dose had clearly shown to decrease tissue injury. We decided to keep fluconazole dose as constant and vitamin E would be administered in dose of 10 mg/100 gm of body weight in group-D. Both the drugs are administrated after inducing septic shock. After the study, animals sacrificed and lungs obtained within 8 hours of septic shock. Lungs are taken out from sacrificed animals and then fixed with paraffin and then sectioned and stained by eosin and haematoxylin. With the help of cardiac puncture blood samples were taken to estimate the infectious markers. Study of CBC and CRP was done. The levels were estimated and compared with control and correlated with histologic findings. The lung histology is determined by mucosal thickening and inflammatory cells. All these results were in favor of group-D fluconazole along with vitamin E that shows significant results in all parameters. There was significant correlation between control and fluconazole along with vitamin E treated group because vitamin E reduces the histopathological changes in lungs parenchyma. It is concluded from the study that vitamin E when treated with combination of fluconazole it decreases the lung tissue injury and oxidative stress.

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