

Concise debate on the consequence of the Petroleum Ether mine of the Alovevera Gel in the PCOS mold

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ABSTRACT

This study is related to the consequence of the Petroleum Ether mine of the Alovevera Gel in the PCOS mold. Phytosterols (plant sterols) are secondary plant metabolites which structural and biological counterparts of cholesterol. Plant sterols are responsible for permeability and fluidity of cell membranes. thereby reducing their absorption Phytosterols can be hydrogenated to obtain phyto-stanols. Both esters are chemically stable materials, having comparable chemical and physical properties to edible fats and oils. The substances are insoluble in water, but soluble in non-polar solvents, suchas hexane, iso-octane and 2-propanol.

The research has focused on β sitosterol for the development of steroidal drugs and functional food ingredients among all phytosterols as it exerts hypo-cholesterolemic effects by inhibiting the absorption of cholesterol in the intestines through competition with LDL-cholesterol (Gylling and Miettinen 1996) and also decreases in total, along with LDL-cholesterol concentrations of 5–15% as evident from several studies (Jones et al. 1999; Ostlund Jr 2004). *Aloe vera* gel contains various phytosterols wherein β -sitosterol, stigmasterol, lupeol and campesterol are in abundance (Hamman 2008).

In clinical study, esterified sterol and stanol mixtures consumption resulted in reduction in plasma Triglycerides (TG) concentrations (Jones et al. 2000). This could be correlated with hypoglycaemic effect rendered by AVG. As PCOS a disease condition wherein hyperglycaemia and dyslipidemia are secondary manifestations in addition to ovarian dysfunction. Thereby, these phyto-components independently or synergistically could act at various targets as above mentioned mechanisms. Steroidogenesis is functional attribute of ovary which is under the regulation of hypothalamus-pituitary axis. “*Ex vivo*” study from previous chapter showed wherein non-polar P1 fraction extracted by petroleum ether indicated that it could directly modulate ovarian steroidogenic enzyme activity. Thereby, this research paper attempts to understand “*in vivo*” role of non polar P1 fraction from AVG on steroidogenesis with special reference to ovary.

Key word: petroleum ether, *Aloe vera* gel, Plant sterols, extract, steroidogenesis.