UNIVERSITI TEKNOLOGI MARA

MORPHOLOGICAL AND HISTOLOGICAL ANALYSIS OF OVARY AND UTERUS FOLLOWING TREATMENT WITH DELTA-TOCOTRIENOL IN NICOTINE –TREATED MICE

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ABSTRACT

Vitamin E is one of the vitamins that is soluble in the fat. It has been discovered in 1922 and since then a lot of studies had been conducted to see its effects to the human body especially its anti-oxidant effects. This study is conducted to determine the effects of tocotrienol on the structural damaged causes by nicotine. The mice been divided into 5 groups and each group contain 6 mice and underwent different treatments. For group A, the mice have been treated with 0.1 ml of 0.9 % of normal saline, group B treated with 0.1 ml corn oil, group C been treated with 3mg/kg/day of nicotine, group D been treated with 60mg/kg/day of delta-tocotrienol and group E treated concurrently with 60mg/kg/day of delta-tocotrienol and 3mg/kg/day of nicotine. Form the result obtained, it clearly seen that administration of delta-tocotrienol is able to reverse the damage on ovaries structure causes by the nicotine. However the effect of administration of delta-tocotrienol in reversing the damage causes by the nicotine on uterus is unclear.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Vitamins are among the important nutrient that are required by the body for tissue and cellular processes. Vitamins consist of vitamin A, B, C, D, E, and K. Among these, vitamin E has been extensively studied and reported as the most powerful lipid-soluble and anti-oxidant. Vitamin E was first discovered in 1922 by Herbert McLean Evan and Katharine Scoot Bishop (Evans & Bishop, 1922). In the early years of the vitamin E discovery, the studies that have been made were focusing on the effects of vitamin E on the reproductive system. However since the discovery, a lot of researches have been conducted to understand the antioxidant effect of vitamin E rather than its effect on the reproductive system.

1.1.1 SOURCES OF VITAMIN E

The main sources of vitamin E are from nuts, sunflowers, hazel nut, walnut, sesame oil and a few other sources. The concentration of tocotrienol is very high in barley, rye, annatto seed, maize grape (Kannappan, Gupta, Kim, & Aggarwal, 2012; Sen, Khanna, & Roy, 2006).