UNIVERSITI TEKNOLOGI MARA

THE EFFECTS OF DIABETES ON FEMALE SEX HORMONE LEVELS

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ABSTRACT

We analyzed the effects of streptozotocin-induced diabetes on the female hormone level in Wister Kyoto (WKY) rats. There was reduced sensitive of estradiol and progesterone in diabetes mellitus compared to levels in normal tissue and serum. Both hormones were slightly lower in female diabetic rats compared to non diabetic rats. Diabetes may disrupt steroidogenesis or alter the Hypothalamus-Pituitary-Gonadal (HPG) axis function. Estradiol was lower compared to progesterone in diabetic aorta probably due to diabetes induced loss of estrogenic signaling in female WKY rats.

CHAPTER ONE

INTRODUCTION

1.1 Research background

Diabetes mellitus (DM) is a metabolic disorder characterized by hyperglycemia resulting from the lack of insulin, lack of insulin effect, or both. The two general diabetes mellitus are type1 diabetes mellitus which is due to absolute insulin insufficiency and type 2 diabetes mellitus caused by insulin resistance with varying degrees of insulin secretory defects (Krentz, 2002). It is usually associated with many other complications such as cardiovascular disease, atherosclerosis, ischemia heart disease, dyslipidemia and obesity (Khan *et. al.,* 2005).

DM is associated with metabolic syndrome which is prone to cause cardiovascular disease. Diabetes mellitus is a major risk factor in cardiovascular disease in women (Bolega *et. al.* 1999). Women are less to the risk of mortality due to coronary heart disease associated with diabetes mellitus compared to men (Natarajan *et. al.*, 2005)