INTRODUCTION

Flutamide is a pure antiandrogen drug in the market and is widely used as a means of maximal androgen blockage in the prostatic cancer ***(Tuskamoto and Akaza 1999, Zhang, et al, 2005)***. Also, it is used in the treatment of hirsutism in woman ***(Sahin and Kelestimur , 2004),*** and in the hormonal therapy of acne vulgaris in females ***(Thiboutot and Chen, 2003).*** The process of testicular descent and its controlling mechanisms remain poorly understood ***(Spencer et al. 1993 and Hutson et al. 1996).*** Several structures are believed to be implicated in this process; androgen receptors, and the gubernaculum ***(Husmann and McPhaul, 1991).*** Also androgen – binding capacity declines in the gubernaculum of the rat between gestational day 18 and postnatal day 3, suggesting the end of a critical period of development during which the androgens play a physiological role ***(George, 1989).*** Androgen receptor blockage during development (e.g. as a result of the administration of an antiandrogen) can inhibit testicular descent ***(Husmann et al., 1994).*** The nonsteroidal antiandrogens induce structural spermatogenic damage ***(Nambu and Kumamoto, 1995),*** cryptorchidism and agenesis of the prostatic gland and seminal vesicles were found in the males under this treatment ***(Goto et al., 2004).*** Feminization of the genitalia and under-development (or absence) of the epididymis and vas deferens are good indicators that flutamide is acting on

target tissues ***(Husmann and Mcphaul, 1991).*** The rat can be considered as an ideal experimental model, because of the similarity of its structures in man during the embryonic period of development ***(Godlowski et al., 1997).***

AIM OF THE WORK

This work was aimed to study:

The pre-and-postnatal changes induced by nonsteroidal antiandrogen (flutamide) on :

1- Position of the rat testis (descent) and its structure in each position by light and electron microscopic studies.

2- Morphological and structural changes on the male rat internal genital organs .

3- On male rat external genitalia.