

Cairo University
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**Pathological And Immunohistochemical Studies on The
Effects of Aflatoxins to Evaluate The Reproductive
Toxicity And Hormonal Changes in Female Albino Rats.**

Thesis
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For Ph.D in Pathology
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

أَمَّنْ هُوَ قَانِتٌ آنَاءَ اللَّيْلِ سَاجِدًا وَقَائِمًا
يَحْذَرُ الْآخِرَةَ وَيَرْجُو رَحْمَةَ رَبِّهِ ^{قُلْ}
هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا
يَعْلَمُونَ ^{قُلْ} إِنَّمَا يَتَذَكَّرُ أُولُو الْأَلْبَابِ

صدق الله العظيم
الزمر آية (9)

Dedication

This work is dedicated to my *Dad's spirit*, my *mother, beloved wife* and my *daughters, Rital and Rohan*. I give my deepest expression of love and appreciation for the encouragement that you gave and the sacrifices you made. Thank you for the support, patience and love.

Yours,

Mohamed Aly Sayed Aly

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Abstract

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ABSTRACT

Aflatoxins are one of the natural occurring contaminants of food and feed stuffs. The reproductive system especially in female suffers from lack of studies. The aim of this study is to investigate the deleterious effects of aflatoxins on the female reproduction and on ovarian oogenesis. A total number of eighty mature cyclic female albino rats were used and randomly allocated into one of the four treatment groups: the control group received basal diet containing zero ppb aflatoxins and three aflatoxin treated groups (A, B and C) fed on basal diets containing 250, 500 and 1000 ppb aflatoxins/ kg diet, respectively for 45 days. Results showed delay and elongation of estrous cycle, decreased levels of estradiol, progesterone, testosterone, T3 and T4 hormones; dose dependent histopathological changes in ovaries and uterus, where atrophy and necrosis of ovaries, decrease number of viable ovarian follicles and increased number of inactive corpus luteum. Aflatoxicosis was characterized by induction of apoptosis and DNA fragmentation. In conclusion, this study showed that aflatoxins are severely toxic to female reproductive system. Thus, at the end of females exposure to aflatoxins can bring about deterioration of female reproductive health.

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