



تم بحمد الله



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

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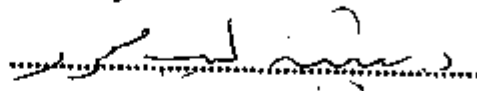
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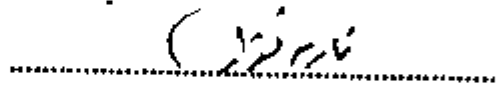
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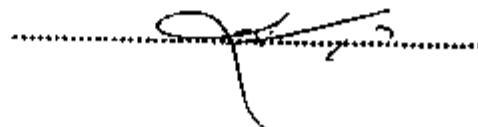
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**MUTAGENIC STUDY OF METRONIDAZOLE
WITH AND WITHOUT NIGELLA SATIVA
ON MAMMALIAN MODELS**

THESIS

**Submitted for partial fulfillment
of Master Degree in Basic
Medical Sciences (Histology)**

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1997



To

My Father and Mother

My husband

and My precious daughters

Aya and Mai.

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INTRODUCTION

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slightly aged or off-white appearance. There is no handwriting or other markings on the page.

INTRODUCTION

Most of drugs have many side effects which represent a great problem for human. Some of these side effects may be serious as induction of mutagenicity and carcinogenicity. An example for these drugs is Metronidazole "flagyl, trade-name" which is an effective drug for treatment of protozoal infection and frequently used in developing countries in the form of tablets, syrup and solution for intra-venous infusion. It is the drug of choice for treatment of *Trichomonas vaginalis* (Voogd et al., 1974), *Entamoeba histolytica* (Voogd et al., 1979), *Giardia lamblia* (Goldring et al., 1975) and is also used as a chemotherapeutic agent due to its specific effect on anaerobic micro-organism (Finegold, 1975). It was recorded that flagyl is carcinogenic in rodent and mutagenic in bacteria (Voogd et al., 1974). Conner et al. (1977) reported that flagyl is a potent mutagen in microbial system in vitro "Salmonella, yeast etc.". However, it is not or weakly mutagen in mammalian cells in vitro as well as in vivo (Matula, 1990).

Many substances can reduce or eliminate the activity of mutagens (Warner et al., 1991 and Gebhart, 1992). Some of these antimutagens

are natural such as *Nigella sativa* "black seed", Chlorophyllin, B. carotene and garlic (Warner et al., 1991), and others are synthetic such as glutathione and Vit. E (Tadi et al., 1991).

Nigella sativa "black seed" was used in folk medicine in Egypt and was reported as a therapeutic agent for the treatment of non-insuline dependent diabetes mellitus and an inhibitor of chemical carcinogen (Salomi et al., 1991). It was also reported to protect from negative effects of cisplatin, like decrease in hemoglobin level and leucocytic count (Nair et al., 1991). Salomi et al. (1992) demonstrated the anti-tumour effect of *Negella sativa* on Dalton's lymphonia ascites "DLA", Ehrlich ascites carcinoma "E.A.C" and sarcoma-180 in vitro and in vivo, and it was also demonstrated to be anti-oxidants (Houghton et al., 1995).

This image shows a full page of primary-ruled notebook paper. It features multiple sets of horizontal lines designed for teaching handwriting. Each set consists of three lines: a solid top blue line, a dashed middle blue line, and a solid bottom blue line. These sets are repeated vertically down the entire page, providing ample space for practicing letter formation and alignment. The paper is otherwise blank, with no text or markings other than the ruling lines.

AIM OF THE WORK

[illegible]

AIM OF THE WORK

This research is performed to demonstrate the effect of Flagyl "Metronidazole" alone and conjugated with natural substance such as *Nigella sativa* "black seed" on mammalian chromosomes both in vivo and in vitro.

[illegible]

REVIEW OF LITERATURE

This image shows a full page of blank primary-ruled paper. It features multiple sets of horizontal lines designed for young learners' handwriting. Each set consists of a solid top blue line, a dashed middle blue line, and a solid bottom blue line, providing a guide for letter height and placement. The lines are evenly spaced across the entire page.