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شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم

**A STUDY ON A NEW METHOD FOR RAPID
IDENTIFICATION OF ENTEROHEMORRHAGIC E. COLI
O157: H7 IN STOOLS, IN PATIENTS SUFFERING
FROM HEMORRHAGIC COLITIS**

Thesis

submitted for partial fulfilment
of M.Sc. Degree in
Clinical and Chemical Pathology

By

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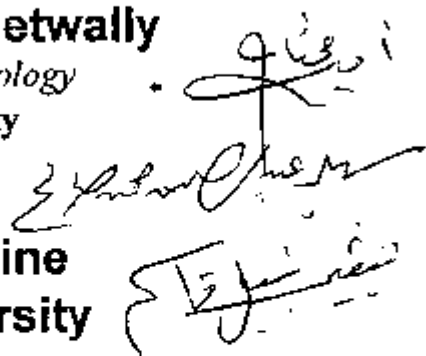
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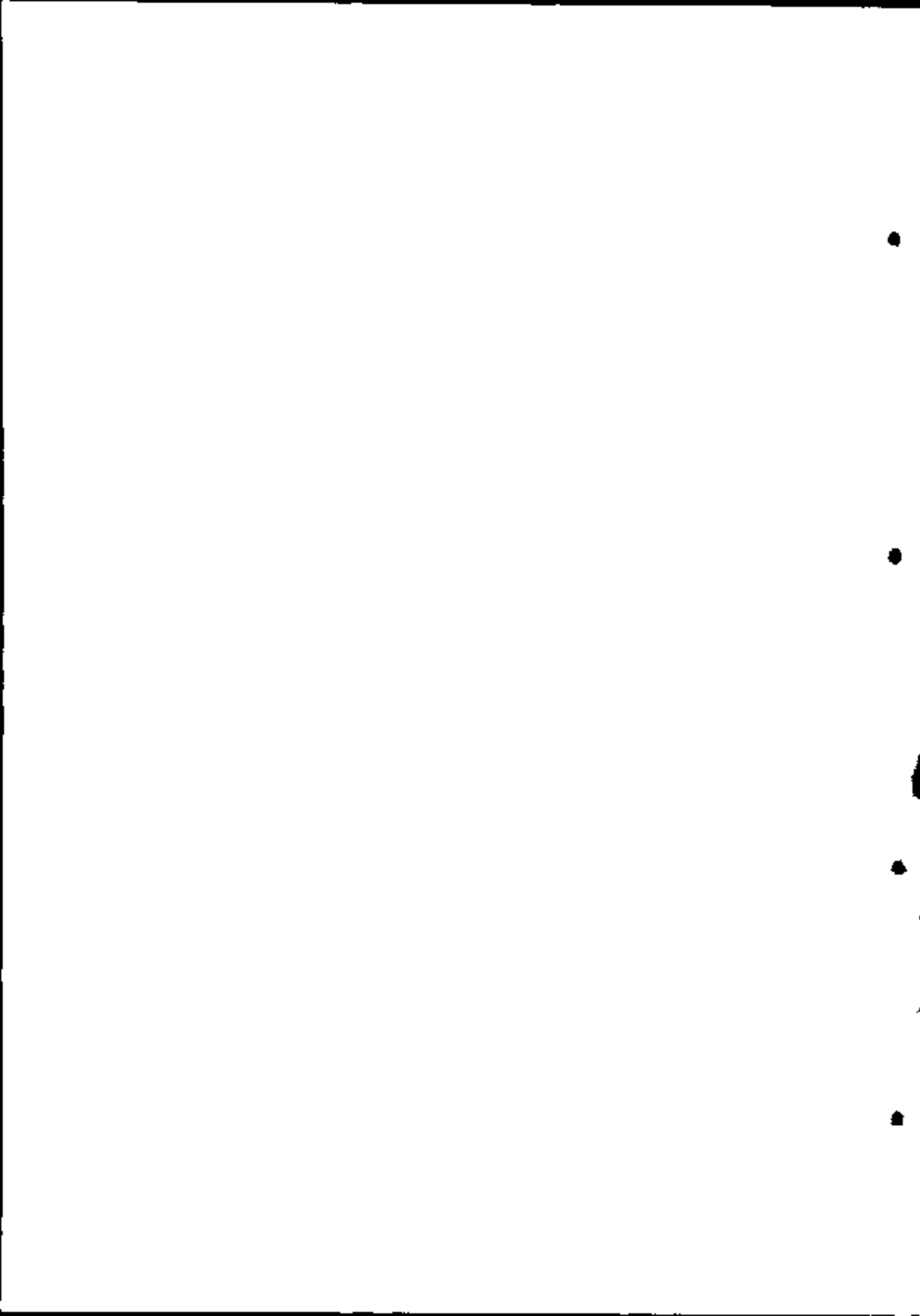
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For
My Parents, my Husband and my Children;
Sarah and Hassan.



Acknowledgement

I express my deepest gratitude and thanks to Professor **Ragaa Mahmoud Lasheen**, for kindly accepting to supervise this work and for the valuable advice and encouragement she offered throughout this work.

I, Also, sincerely thank Professor **Nevine Nabil Kassem**, for her constant & careful supervision, kind advice, constructive comments & invaluable encouragement and help during the work.

Also, my sincere thanks are due to Doctor. **Fatma El-Sayed Metwally**, for her constant & fruitful supervision, her kind advice & encouragement & the endless effort she offered throughout the work.



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Title: A Study on a new method for rapid identification of Enterohemorrhagic *E. coli* 0157 : H7 in stools, in patients suffering from hemorrhagic colitis.

Place of Research: Faculty of Medicine - Ain Shams Univ.

Abstract: *E. coli* serotype 0157: H7 has recently been recognized as an important gastrointestinal pathogen. This verotoxin producing *E. coli* was first identified in 1982 as the etiologic agent in outbreaks of acute hemorrhagic colitis. Infection with this organism can involve extra-intestinal sites such as hemolytic uremic syndrome and thrombocytopenic purpura and these could be fatal. Most laboratories use MacConkey- sorbitol agar as a screening medium. Presumptive identification of sorbitol - negative colonies is made by latex agglutination with 0157 antisera or tube agglutination tests or direct immunofluorescence (DIF) antibody testing. The substrate MUG is used to test for the production of β - glucuronidase (MUG test). *The purpose of this study* is to attempt to detect *E. coli* 0157: H7 directly from stool specimens by direct immunofluorescence (DIF)

One hundred patients with bloody, watery, and mucoid diarrhea were examined. All samples were cultured on MacConkey agar as an ordinary medium and MacConkey - sorbitol MUG agar as a specific medium. Fifty one cases showed non-sorbitol fermenting colonies, which were then examined: (1) under ultra-violet illumination, where 43 cases showed negative fluorescence and were suspected to be *E. coli* 0157: H7 (2) using latex agglutination test where 47 cases showed positive results. Thereupon, *the present study recommends that* all fecal specimens containing bloody mucus from patients who had symptoms before hospital admission, should be routinely tested for *E. coli* 0157: H7 by culture on SMAC - MUG agar. Latex test could be used as a presumptive test with SMAC agar if MUG reaction is not available.



Contents

	Page
* Introduction	1
* The Genus Escherichia Coli:	3
- <i>Antigenic structure</i>	5
- <i>Classification</i>	8
- <i>Epidemiologic typing system</i>	9
- <i>Pathogenicity</i>	12
- <i>Clinical picture</i>	17
* E. Coli 0157: H7	22
- <i>Epidemiology</i>	23
- <i>Mechanism of action</i>	25
- <i>Clinical picture</i>	26
* Laboratory diagnosis	30
- <i>Diagnosis of E. coli</i>	30
- <i>Diagnosis of E. coli 0157: H7</i>	34
* Treatment of E. coli infection	41
* Control and Prevention	45
* Material and Methods	48
* Results	55
* Discussion	62
* Recommendation	65
* Summary	66
* References	68
* Arabic Summary	

List of Tables

	Page
* Table (1): Patients groups: Distribution of age and sex and results of culture, MUG reaction and latex test.	58
* Table (2): Control groups: Distribution of age and sex and results of culture and MUG reaction.	59
* Table (3): X2 test between culture and fluorescence.	60
* Table (4): Correlation between latex and MUG reaction (fluorescence).	60
* Table (5): Diagnostic validity test.	61

