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بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

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بالرسالة صفحات لم ترد بالاصل

SERUM LEVEL OF MATRIX METALLO PROTEINASE-2 IN CANCER BLADDER

Thesis

Submitted for Partial Fulfillment of Master Degree

In

"Clinical Pathology"

By

Eman Mohamed Ragy M. Hela!

(M.B. B.Ch.)

SUPERVISORS

Prof. Dr.

HANAA EL-SAYED NOFAL

Prof. of Clinical Pathology
Faculty of Medicine
Tanta University

Prof. Dr.

MAHMOUD DESOUKY EL-SHARABY

Prof. of Urology
Faculty of Medicine
Tanta University

Prof. Dr.

MOHAMED ABD EL-RAHMAN SWEILAM

Assistant Prof. of Clinical Pathology
Faculty of Medicine
Tanta University

FACULTY OF MEDICINE
TANTA UNIVERSITY
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﴿ قَالُوا سُبْحَانَكَ لا عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيمُ ﴾

صدق الله العظيم

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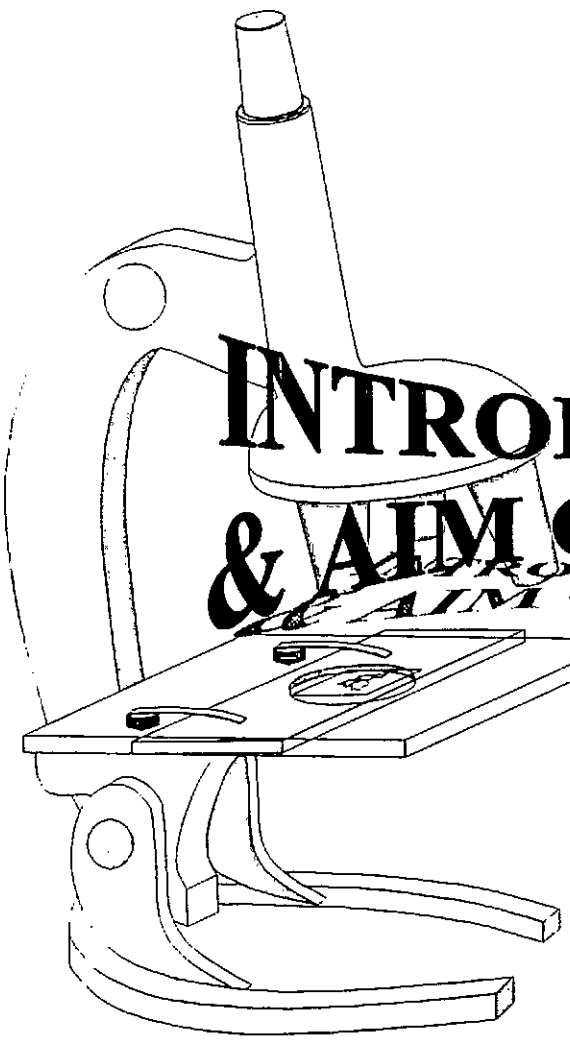

INTRODUCTION & AIM OF WORK

INTRODUCTION AND AIM OF THE WORK

Tumor invasion is an important process in the progression of various cancer. In urothelial cancer of urinary bladder, tumor cell infiltration into muscle layers, surrounding tissues, or vessels is strongly associated with local recurrence, metastasis and poor outcome [Liponen et al 1991].

A major challenge for oncological practice is the identification of patients with micrometastases at their initial presentation. The availability of more specific markers for micrometastases might then allow for the introduction of adjuvent chemotherapy or noval biological therapies and improve the prognosis [Waxman and Wasan, 1992].

Tumor cells metastasize to distant sites by disassembling the complex extracellular matrix (ECM) that delimit tissue spaces and surround blood vessels. Type IV collagen form one of the main structural element of ECM. [Moses et al., 1998].

It is postulated that the progression of cancer may be the result of the activity of proteinases that facilitate invasion and metastasis by degrading the extracellular matrix [Baker et al 1994].

One group of proteinases matrix metalloproteinases MMPs are a family of protmiolytic enzymes that contain a zinc atom at their active site. They are found in both normal and pathological tissue is which matrix remodelling is involved including enbryonic development, wound healing , arthritis and angiogenesis, as well as tumor invasion and metastasis [Nutt et al., 1998].

MMP-2 (Gelatinase A, 72, Kda type IV collagenase) is of particular importance in tumor cell invasion because it can cause the hydrolysis of type IV collagen in ECM [Grignon et al., 1996].

The aim of this study is to mesure serum level of MMP-2 in bladder cancer patients and to evaluate the diagnostic and prognostic utility of its measuring in bladder cancer patients .

REVIEW OF LITERATURE

CARCINOMA OF THE URINARY BLADDER

Bladder cancer is one of the most common diseases treated by urologists. Bladder cancer rate in Egypt is the highest in the world, with the overall age standardized death certification rates of 10.8 per 100000 in men and 2.3 per 100000 in women (La Vecchia et al.,1993).

INCIDENCE:

The urinary bladder is the most common site of cancer in the urinary tract (Boring et al., 1994). The American Cancer Society estimates that the male to-female ratio of bladder cancer is 3:1 [Silverman et al.,1992] Bladder Cancer is the fourth most common cancer in men, accounting for 9% of all cancer cases. In women bladder cancer is the eighth most common cancer (Silverman et al., 1992).

In Egypt, bladder cancer is the most common type of male malignancy, and coming only after breast cancer in females rate of incidence (Khaled, 1993). It represents about 26,7% of malignant tumors in Egypt [El-Sebai, 1981].

The incidence of bladder cancer increases with age and is particularly high after the age of 60. Bladder cancer before the age of 40 is uncommon.In younge patients , most tumors are low grade, papillary, non invasive,transitional cell carcinoma. However bilharizial bladder cancer occurs in younger age [Catalona, 1992].

ETIOLOGY:

a) Genetic:

Much data suggest that many bladder cancers are carcinogen induced. Carcinogens produce lesions in the genome of the transitional epithelial cells intiating the process of carcinogenesis. It is likely that multiple lesions are required to cause malignant transformation of the cell. Abnormalities of chromosomes 1,5,7,9,11,17,18 and 21 have been reported in bladder cancer [Tsai et al., 1990].

b) Occupational Exposure:

Aniline dyes, introduced in the mid- 1800s to color fabrics, are carcinogens, other chemicals that have been shown to be carcinogens for bladder cancer include 2-naphthylamine, 4-aminobiphenyl 4-nitrobiphyenyl, 4,4-diaminobiphenyl (benzidine), and 2-amino-1 naphthol (Morrison and Cole, 1976). Combustion gases and soot from coal and possibly, chlorinated aliphatic hydrocarbons are other carcinogens (Steinbeck et al., 1990).

c) Cigarette Smoking:

The incidence of bladder cancer is 4 times in smokers than nonsmokers (Clavel et al., 1989). The risk correlates with number of cigarettes smoked, the duration of smoking and the degree of inhalation of the smoke (Augustine et al., 1988).

The specific chemical carcinogen responsible for bladder cancer in cigarette smoke has not been identified, more over smoke