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**To my generous father who brings me all I need during my educational life.**

**To my kind mother who offer me all types or rest and comfort for gaining excellent standards.**

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# ABSTRACT

In this study, thirty prostate cancer patient examined in order to measure the function of bone scan and PSA level in detection of prostate carcinoma in case of staging cancer.

And to evaluate the value of radionuclide bone scan and tumour marker. And to define the role and methods of them.

It was found that twenty-three cases (76.7%) out of thirty showed a positive bone scan, while twenty-five cases (83.3%) out of thirty showed abnormal PSA level.

# ملخص البحث

في هذه الدراسة تم تصوير ثلاثون مريضاً بالمركز القومي للعلاج بالأشعة والطب النووي بالخرطوم وهم مرضي سرطان البروستاته بغرض معرفة طور السرطان ومدي انتشاره في العظام وأيضاً لمعرفة أهمية الجمع بين تصوير العظام بمادة مشعة وقياس انتجين البروستات الخصوصي .

وكانت النتائج أن 23 حالة ظهر فيها انتشار سرطان البروستاتا في العظام (7.76%) في حين أن 25 حالة سجلت معدلات عالية في فحص انتجين البروستات الخصوصي(83.36%) .

كما أن الجمع بين هذين الفحصين يؤدي إلي سرعة اكتشاف سرطان البروستاته ويحسن من نتائج العلاج .

# List of Tables and Figures

## List of Abbreviations

| | |
|---|---|
| Alpha feto protein | AFP |
| Benign prostatic hyper plasia | BPH |
| Cancer | Ca |
| Carcino Emberyonic Antigen | CEA |
| Computed Tomography | CT |
| Digital Rectal Examination | DRE |
| Diahydrostorone | DHT |
| Ethylene diamine tetracedic Acid | EDTA |
| Food and drug adminstration | FDA |
| human Chronic Goandotrophin | HCG |
| Human Immuno defency Virus | HIV |
| Iodino-125 | $I^{125}$ |
| Immuno radiometric assay | IRMA |
| Luteinising hormone | LH |
| luteinising hormone-releasing hormone | L HRH |
| Methylene diaphosphate | MDP |

| | | |
|---|---|---|
| | Molybdenum-99 | $Mo^{99}$ |
| | Magnetic Resonance Imaging | MRI |
| | National Cancer Institute | NCI |
| | No of pt | Number of patient |
| PAP | Placental Alkaline Protein | |
| | Prostate Specific Antigen | PSA |
| | Radiation and Isotope Center of Khartoum | RICK |
| | Technetium-99 metastable | $Tc^{99m}$ |
| | Tumour Lymph Node Metastases | TNM |
| | Trans Uretheral Resection Prostatectomy | TURP |