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Establishing the Ordinary Narration of Men with Originally Negative Prostate Biopsies

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Abstract

The prostate is an organ of reproduction in the man, resembling chestnut or walnut in shape and size, located directly under the bladder and in front of the anus surrounding the first part of the urethra. The aim of study is determine the health results of Basra Governorate, Iraqi males with history of a single negative transrectal prostate biopsy TRUS-Bx, from January 1, 2010 to December 31, 2018. The researcher used billing claims from Basra Educational Hospital database (BEH) to determine the patients whom have understand about TRUS – BX with using billing claim of PNB (Prostate Needle Biopsy) and was separated for concurrent ultrasound pelvic. The 94% from database was practicing in Basra as billing claim which meaning that who doesn't accept billing will compensate accordingly. The drugs tests were implantation for all patients as Basra Educational Hospital ethical. Compassion, specialty, high quality predictive rate and negative prophetic value had been used to decide the analytical rate of PCa diagnosis of TRUS-Bx. The records were then analyzed by the use of SPSS version 14. The ethical was asked patients to own an eleven minutes rest before measure of their pressure level of blood and whole experiment. Young people (under the age of 45) are considered low levels (the risk of prostate cancer is few), when they are less than 2.5 Nano g/ml. For older men (older than 45 years), the value is low if it is less than 4 Nano grams/ml. In spite of the foregoing, it is known that about half of the cases of Prostate-Specific Antigen PSA in proportions that do not exceed these limits. For this reason, it is important to monitor the PSA values every year. Large-scale prostate biopsy identifies large prostate cancer in many men and of whom the previous sextant was a benign biopsy. This procedure should be considered when the suspicious results are for the morrow, despite the previous negative TRUS-BX.

Keywords: *Prostate Biopsy, Radical Prostatectomy, Prostate Cancer*

Introduction

The prostate is an organ of reproduction in the man, resembling chestnut or walnut in shape and size, located directly under the bladder and in front of the anus surrounding the first part of the urethra [(1)]. The constant growth of the prostate leads to its enlargement, or the so-called Benign Prostatic Hyperplasia (BPH), which means the increase of its cells, which increases the amount of PSA protein secreted, a portion of it appears in the blood is measured by the type of prostate disease, whether benign hypertrophy, bacterial infection, Chronic inflammation or cancer.

Only men have a prostate, a small gland located below the bladder near the rectum. The prostate gland surrounds the urethra, which is the corridor inside the penis through which urine and men pass [(2)]. The prostate is often described as the size of a walnut and naturally grows as men grow older. This may sometimes pose problems, such as difficulty urinating. These problems are common in older men and are not always symptoms or signs of cancer [(3)].

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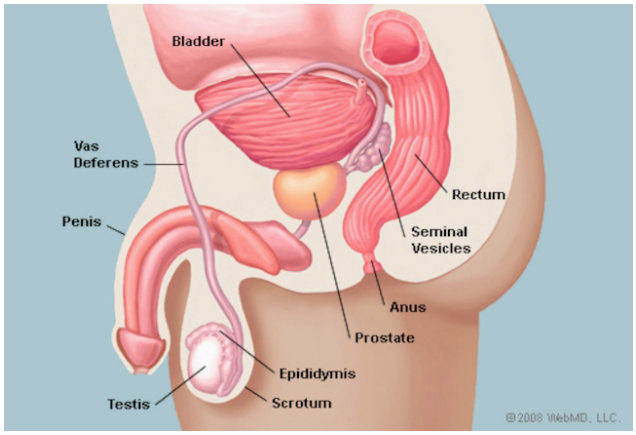

Figure 1 Prostate

Prostate Cancer (PC)

In the early stages there may not be any symptoms. In later stages, however, some prostate cancer symptoms may include [4]:

- Frequent or sudden feeling of need to urinate
- Having difficulty urinating (e.g. difficulty in starting urination or being unable to urinate despite feeling the need for it or slow flow of urine)
- Some pain when you pee.
- The presence of blood in the urine or semen
- Pain in the lower back or upper thighs or hips

The factors most relevant to the development of prostate cancer are:

- **Age:** Prostate cancer is an age-dependent disease, which means that the likelihood of infection increases as age progresses. The risk of prostate cancer by the age of seventy five is 1 in 7 men. This risk is increased by the age of 83 to 1 in 5 men [5].
- **Family history:** If you have a first-class relative with prostate cancer, you are more likely to be infected than men who don't have family histories like this.
- **Heredity:** Genes are present in each cell of the body. They control the way cells grow in the body and behave [6].
- **Diet:** There is some evidence that eating too much processed meat or fat-rich foods may increase the risk of developing prostate cancer.
- **Lifestyle:** There is evidence to show that the environment and lifestyle may affect the risk of prostate cancer [7].

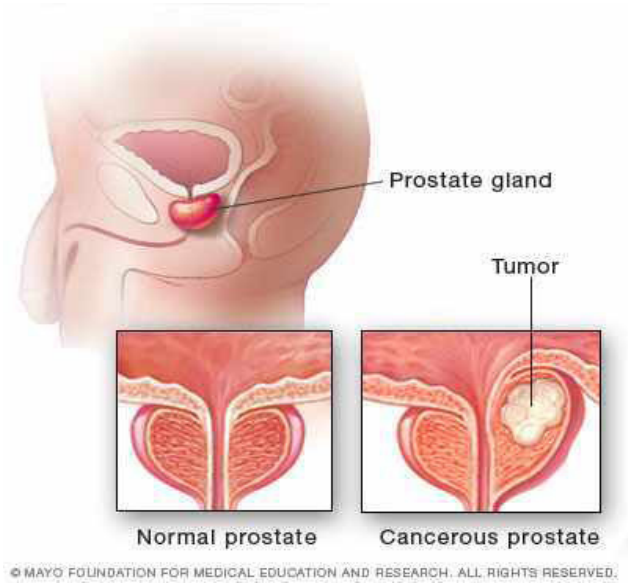

Figure 2 Prostate Cancer

Prostate-Specific Antigen Test

PSA is a diabetic protein (Glycoprotein-protein with leftover sugars) produced by prostate cells. It is actually a protease, a protein that is capable of dismantling other proteins. It is present at a high rate in the tissues of the prostate and semen [8].

The significant increase in the PSA level, which exceeds 0.75 Nano-g/ml within a year, increases the likelihood of prostate cancer and is a reason for taking a prostate sample. However, despite the limited nature of PSA screening, it remains the best predictor of prostate cancer or to follow patients who have received treatment for prostate cancer. Prostate cancer rarely returns, after treatment, without a high level of PSA [9].

Also, you should tell your doctor if you have a urine catheter (catheter) or a prostate biopsy or if your prostate inflammation is diagnosed because these cases may increase the PSA rate [10].

Radical Prostatectomy (RP)

The traditional surgical procedure for the resection of the prostate is to open a wound of approximately 15 – 20 cm in the abdomen beneath the navel. As the complications of this process are manifold, the surgeons thought of an alternative, where the patient's suffering is less and the duration of recovery is shorter, the process known as Minimal Invasive Surgery (MIS), which can be translated by the smallest surgery aggression or an incursion into the body of the patient which was

introduced almost two decades ago [11].

The laparoscopic Radical prostatectomy or (LRP) device or telescope flattens the natural depth of the position on which the operation is conducted but faces various obstacles, including hardening or non-movement of the wrist/wrist in this device [12].

In Canada, Dr. Stephen Butler - from the St. Joseph's Health Centre in London - is successfully using it between 10 – 12 times with the robot – so we can be more precise than normal open surgery. Also, the robot avoids the important nerves and muscles of the nerve and urinary incontinence [13].

Aim

The aim of study is determine the health results of Basra Governorate, Iraqi males with history of a single negative transrectal prostate biopsy TRUS-Bx, from January 1, 2010 to December 31, 2018.

Methodology

The experiment was described as cohort study using related data from Basra Educational Hospital in Iraq which consist from males only who have history of single negative transrectal prostate biopsy between periods January 1, 2010 to December 31, 2018.

Sample

The researcher used billing claims from Basra Educational Hospital database (BEH) to determine the patients whom have understand about TRUS – BX with using billing claim of PNB (Prostate Needle Biopsy) and was separated for concurrent ultrasound pelvic. The 94% from database was practicing in Basra as billing claim which meaning that who doesn't accept billing will compensate accordingly. The drugs tests were implantation for all patients as Basra Educational Hospital ethical.

Inclusion criteria

1. Age older than legal consent > 35 years.
2. Prostate needle biopsy.
3. Ultrasound Pelvic with 3 days of (PNB) prostate needle biopsy

Exclusion criteria

1. Woman gender
2. Males age less than 35 years.
3. Death prior biopsy.
4. Before January 1, 2010
5. After December 31, 2018
6. Implantation of hormone pellets.
7. Censored in the first 60 days from index biopsy.
8. Any evidence of infection.
9. Patient's refusal to participate in the study.

Statistical Process

The average, mean and standard deviation were present in variables established; whilst frequency and ratio have been decided on to represent qualitative variables. Compassion, specialty, high quality predictive rate and negative prophetic value had been used to decide the analytical rate of PCa diagnosis of TRUS-Bx. The arrangement stage among single negative transrectal prostate biopsy was determined using RP rates. The records were then analyzed by the use of SPSS version 14.

The researcher used sensitivity analysis for comparing the results of patients that have negative TRUS – BX and patients have any type of prostate biopsy. Additional, the researcher was used following tests for all patients beside drugs test:

1. PCa diagnosis rates
2. Frequency distribution of repeat biopsies
3. RP rates

Ethics

The ethical was asked patients to own an eleven minutes rest before measure of their pressure level of blood and whole experiment. Ethics Committee of Basra Educational Hospital in Basra government (Iraq) and AHAPs permitted the analysis method, and printed consent were attained from all of the members before beginning of the study.

Results

Demographic

As mention in methodology section, we haven't

sample size, we used database of Basra Educational Hospital database as principle objectives.

The databases of Basra Educational Hospital have 395650 males' patients, amount of 293908 patients (74.3 %) were excluded because of many reasons such as have not first prostate biopsies, prior in PCa diagnosis that called prostate cancer. The amounts of 101742 patients have negative prostate biopsy with ratio of (25.7 %). The 101742 was total sample of our study, 65412 patients have TRUS-Bx with ratio (64.3 %) and 36330 patients haven't TRUS-Bx with ratio (35.7 %).

The final sample was 65412 male patients have TRUS-Bx, as shown in Table 1.

Table 1 Sample Demographic Distrubition

Parameter Number		**Number and percentage of Women**		**P value**
		Percentage		
Age	35 – 44	14758	22.56 %	NS*
	45 – 54	16241	24.83 %	NS*
	55 – 64	15421	23.58 %	NS*
	65 – 74	10214	15.61 %	NS*
	> 75	8778	13.42 %	NS*
Total		65412	100.00 %	
Area	Rural	35912	54.90 %	NS*
	Urban	29500	45.10 %	NS*
Total		65412	100 %	

(NS= No statistical significance)

The numbers of males with age between (35 – 44 years) were 14,758 patients (22.56 %),age between (45 – 54 years) were 16241 (24.83 %) patents, age between (55 – 64 years) were 15421 (23.58 %) patients, age between (65 – 74 years) were 10214 (15.61 %) patients, and greater than 75 years old were 8778 (13.42 %) patients. P value for all above results was more than (0.05), which was statistically not significant.

Prostate diagnosis

The sample size was 65412 male patients between periods from January 1, 2010 to December 31, 2018 to determine the single negative transrectal prostate biopsy TRUS-Bx.

We found that the patients have prostate cancer diagnosis for 5 years with age 35 – 44 was (7.50 %), 45 -54 (11.85 %), 55 – 64 (12.02 %), 65 – 74 (15.81 %) and greater than 75 was (16.10 %). The PCa diagnosis for 10 years with age 35 – 44 was (11.15 %), 45 -54 (17.70 %), 55 – 64 (20.87 %), 65 – 74 (20.98 %) and greater than 75 was (20.27 %). The PCa diagnosis for 15 years with age 35 – 44 was (14.60 %), 45 -54 (21.07 %), 55 – 64 (24.21 %), 65 – 74 (23.19 %) and greater than 75 was (20.78 %).

Table 2 PCa diagnosis

Age	5 Years	10 Years	15 Years
35 – 44	7.50	11.15	14.60
45 – 54	11.85	17.70	21.07
55 – 64	12.02	20.87	24.21
65 – 74	15.81	20.98	23.19
> 75	16.10	20.27	20.78

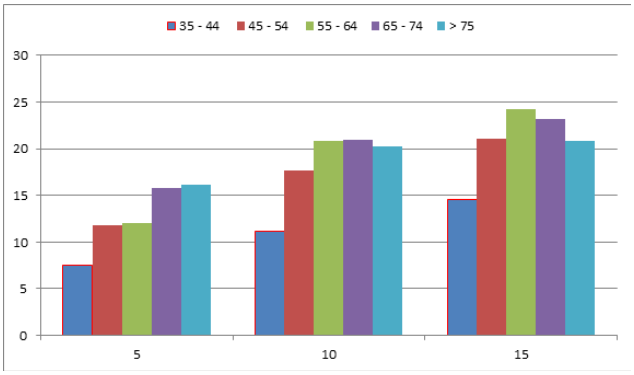

Figure 3 PCa diagnosis as taken single negative TRUS-BX

Young people (under the age of 45) are considered low levels (the risk of prostate cancer is few), when they are less than 2.5 Nano g/ml. For older men (older than 45 years), the value is low if it is less than 4 Nano grams/ml. In spite of the foregoing, it is known that about half of the cases of Prostate-Specific Antigen PSA in proportions that do not exceed these limits. For this reason, it is important to monitor the PSA values every year.

When diagnosing prostate cancer that has not spread out of the prostate, it is usual to have a radical resection of prostaglandins or prostate biopsies. After the surgical procedure, the level of PSA in the blood should be reduced to 0. If the PSA level is higher than 0, the order indicates (in this case) the presence of residue from the prostate tissue, or the spread of the tumor elsewhere. The same applies if the prostate is frozen (Cryotherapy).

Sometimes a decision is taken to conduct radiotherapy. If the PSA level continues to rise three times in a row, it is considered a failure of treatment.

Additional, we made frequency distribution of repeat prostate biopsies in sample size for negative prostate biopsies in Iraq men in Basra, all results shown in frequency distribution of repeat prostate biopsies was identified in 19624 of 65412 men (30 %). The biopsy revealed a Gleeson degree of 6-8 (Median 6.4). In 26709 out of 65412 patients (41 %) and of whom prostate cancer was identified was only 100 positive core biopsy. Although the PSA biopsies was higher and had a total of free PSA less in those with cancer, it was only a statistical indicator of positive PSA speed biopsy ($P < 0.001$). Prostate cancer was observed in 64% of men with PSA. The 19079 patients of total sample (65412 patients) undergoing prostate resection patients were identified as having a great disease in all. Extensive biopsy complications included urinary retention in 15320 patients and rectal bleeding.

The results show that 45% of the radical prostate (RP) was not suffering from the single negative transrectal prostate biopsy TRUS-Bx, while 30% of patients were died due to the radical prostatectomy and suffered from prostate cancer.

The sensitivity analyses incontestable that once this restriction wasn't applied, and every one man with a negative prostate diagnostic test were enclosed, the PCa diagnosing rates weren't clinically considerably completely different. The patients UN agency underwent biopsies at completely different time points within the study amount had variations within the accumulative incidences of the assorted study outcomes, which may well be a mirrored image of the impact of changes in variety of cores sampled on malady outcomes. Similarly, temporal changes within the relative frequencies of finger-guided versus TRUS-BX over the study amount may are assessed to additional demonstrate changes in diagnostic testing technique over the years and to judge the temporal changes in patient exclusion thanks to having undergone a finger-guided biopsy

Conclusion

The aim of study is determine the health results of Basra Governorate, Iraqi males with history of a single negative transrectal prostate biopsy TRUS-Bx, from

January 1, 2010 to December 31, 2018.

Young people (under the age of 45) are considered low levels of prostate cancer risks. Large-scale prostate biopsy identifies large prostate cancer in many men and of whom the previous sextant was a benign biopsy. This procedure should be considered when the suspicious results are for the morrow, despite the previous negative TRUS-BX. The method of radical prostatectomy (RP) is not treated as a panacea for prostate cancer in several cases, and depends on the degree of cancer prevalence in this area.

For future work, we will suggest that knowledge transfer occurs by sharing the results of this study with the rest of the medical community. We will present our findings at various international conferences such as the annual American Urological Association Meeting. We also plan on publishing our results in a peer-reviewed journal, ensuring that our results become available to as wide an audience as possible

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

Conflict of Interest: The authors declare that they have no conflict of interest.

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References

1. Update on the diagnosis of PCa in urine. The current role of urine markers. Fernandez-Serra A, Casanova-Salas I, Rubio L, Calatrava A, García-Flores M, García-Casado Z, López-Guerrero JA. PubMed, (2015); 68(3):240-9.
2. Plym, Anna. Breast and Prostate Cancer: The Impact of Diagnosis and Treatment on Sick Leave and Work. Stockholm, Sweden : Karolinska Institutet, 2019.
3. Causal inference in multi-state models-sickness absence and work for 1145 participants after work rehabilitation. Gran JM, Lie SA, Øyeflaten I, Borgan r, Aalen. 2015, BMC public health., p. 5:1082.
4. The complex genetic epidemiology of prostate cancer. DJ, Schaid. 2014, Hum Mol Genet, pp. R103-21.
5. Khan, Humera. DETERMINANTS OF PROSTATE CANCER: The Birmingham Prostatic Neoplasms Association Study. Birmingham : University of Birmingham, 2011. p. The University of Birmingham.
6. Fat, meat, and prostate cancer. LN., Kolonel. Epidemiol Rev, (2011); 23: 72-81.
7. Risk and predictors of psoriasis in patients with breast cancer: a Swedish population-based cohort study. Yang H, Brand JS, Li J,. BMC medicine., (2017); 5:154-159.
8. The effect of antiestrogen agents on risk of autoimmune disorders in patients with prostate cancer. Chen JY, Ballou SP. The Journal of rheumatology, (2015); 42:55–59.
9. Long-term risk of cardiovascular disease in 10-year survivors of prostate cancer. Hooning MJ, Botma A, Aleman BMP, Baaijens MHA, Bartelink H, Klijn. Journal of the National Cancer Institute, (2017); 99:365-369.
10. Comorbidities in Australian women with hormone-dependent prostate cancer: a populationbased analysis. Ng HS, Koczwara B, Roder DM, Niyonsenga T, Vitry AI. The Medical journal of Australia., (2018); 208:24–28.
11. Estimating the change in life expectancy after a diagnosis of cancer among the Australian population. Baade PD, Youlden DR, Andersson TML, Youl PH, Kimlin MG, Aitken JF. BMJ open, (2015); 21: 523 - 560.
12. Smitsmans, M.H.P. Towards image-guided radiotherapy of prostate cancer. Amsterdam : Digital Academic Repository, , 2019.
13. Grote Winkler Prins Encyclopedie,. Wigger AJ, Lissens RF. 2015, Elsevier, pp. 235 - 240.
14. Ries LAG, Eisner MP, Kosary CL. SEER Cancer Statistics Review. Bethesda : National Cancer Institute, 2014.
15. Prostate cancer screening: current status and future perspectives. SA, Strope. 2010, Nat Rev Urol, pp. 487-93.
16. Obaid AT. Comparative Study between Ultrasound Finding and Retrograde Urethrography to Evaluate Uretheral Stricture. Indian Journal of Public Health Research & Development. 2019 Apr 1;10(4).