

Research Article

Prostatic Sonographic outlook of Men in Doryumu, Shai-Osudoku District, Ghana

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Abstract: Objective: Diagnostic Medical Sonography is widely used and well-tolerated tool for prostate size evaluation. This recent paper stresses the prostate size or volume of men in a community in the Shai-Osudoku district, Greater Accra region, Ghana who took part in a medical screening program organized by charity, Naa Teley Foundation. It also stresses the value of transabdominal ultrasound that utilizes basic ultrasound equipment in evaluating the size of the prostate. **Method:** Eighteen (18) male between the ages 38 to 78 took part in the Medical screening program organized by Naa Teley Foundation and sponsored by the Assemblies of God, Doryumu, in the Shai-Osudoku district in the greater Accra Region during the Mothers' Day celebration. They were made to drink 500ml of water to aid in visualization of the prostate using Sonoscape A6 grey scale machine. The procedure involved transabdominal procedure which uses a transducer that sends out ultrasound waves at a frequency too high to be heard to visualize the prostate and the bladder. **Result:** From the sonographic findings, prostate size does not correlate with aging and irrespective of the age of men, they could have large prostate size. Out of the eighteen men screened (18), four (4) had normal prostate size < 40grams representing 22.22%. **Conclusion:** From the findings, every male between the ages of thirty and above is at risk of prostatic diseases. There is therefore the need to sensitize the male public on the need for healthy prostate. Ultrasound examination is easy, fast, noninvasive and reasonably accurate and therefore recommended for male population to have their prostate assessed by the ultrasound once or twice a year.

Keywords: Prostate health, Risk, ultrasound, volume, Age.

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INTRODUCTION

A large prostate does NOT always cause urinary problems. I think one of the areas urological medicine is behind is assuming that a 60-year-old plus man with urinary problems has a big prostate. A big prostate is not always the problem. I often see 100 to 150-gram prostates (normal is roughly 20 to 40grams) with little to no urinary symptoms and smaller prostates with lots of frequency, urgency and nighttime urination.

Benign Prostatic Hyperplasia (also known as BPH or enlarged prostate) is treated with 5-alpha-reductase inhibiting drugs like Finasteride (Proscar, the trade name) or Dutasteride (Avodart). These drugs can marginally make the prostate smaller but do NOT help with urination. 5-alpha reductase drugs can cause feminization, sexual dysfunction and may lead to advanced prostate cancer (Traish, A. M. *et al.*, 2014).

Trying to reduce the size of the prostate does not always mean urinary problems go away. The real problem is the area of the prostate called the transitional zone (TZ) that surrounds the urethra (the tube that

brings out your urine in your body). The TZ squeezes the urethra for many reasons, including stress. That's why some men with small prostate have urinary symptoms

Prostate ultrasound can measure the volume or size of the prostate to help plan treatment. Patients receiving radioactive seed implantation ("brachytherapy") to treat prostate cancer have transrectal ultrasound for this purpose. It is used to plan the number of seeds needed and where to place them. This test may also be used to plan prostate surgery or other therapy (such as thermal therapies). The study can measure prostate specific antigen density. Transabdominal ultrasound has been the standard clinical tool for evaluating prostatic size; however, the severity of benign prostatic obstruction does not always correspond to the size of the prostate.

Prostatic diseases have become a major medical issue in the black community. Interestingly enough, the prostatic diseases present with several controversies; screening, national policies, treatment et al. whilst, the urological community are at logger heads

with controversies, the ordinary patient is left to make an informed decision on screening and treatment.

Others have no option, but to subject their prostate into the hands of unqualified alternative health practitioners who have no scientific knowledge on the disease and worsening the case. The prostate, being the power house of men cannot be toyed with and lots of black men irrespective of age are presenting daily to health facilities with prostatic symptoms.

Interestingly, in Ghana, most men also think that, having the prostate gland is a taboo. Well, they could be right though, as, all that is needed to get prostate diseases is the prostate gland and without the prostate gland, there is no prostatic diseases. But the benefit of having the prostate is more compared to anything. Without the prostate, there is no men species. In fact, the prostate gland is the G-spot in men.

Prostate stimulation can create an extraordinarily well-built sexual response and strong orgasm in men that are open to this sexual method. So men ability to manage ejaculation at the prostate can also guide them to delayed orgasms and “ejaculations” where no semen is move out. But this method is done in superior Taoist and Tantric sexual practices to contain the sexual energy within.

Sexuality plays an important part in our health and wellbeing, but it is often not addressed in our rushed, modern world. Our puritan background and overachieving work ethic may have something to do with our reticence to delve there. Many people have taboos and wounding that can be triggered when they start looking into their sexuality. The ancient practices of Taoism and Tantra with their rich viewpoint can offer us a reawakening of a healthy sexuality.

The prostate gland also produces and secretes an alkaline fluid, which energizes and protects the sperm during ejaculation. Commonly the prostate changes and enlarges with increasing age.

The prostate also acts as sieve and removes toxins or waste for defense of the sperm, which helps men chances of impregnation and also made sure that men start with the most favorable class of sperm. I consider this as the prostate's most significant function and, at the same time, can be one of the main reasons there is a rising problem of prostate disease and cancer as men in Ghana and the black communities as we deal with more and more toxins or wastes in our food, water and the surroundings.

Another most significant contribution of the prostate is its ability to help men get erections. The prostate gland gives men their erections because the prostate erection nerves are in charge for erections. These nerves activate the penis to enlarge and solidify

with added blood flowing into it, and this helps men in producing an erection.

So obviously, if these nerves, which attach to the sides of the prostate, get damaged then erectile difficulties are certain and they now call your inability to have sex with your woman due to prostate problem is called “sleeping on duty”! That is why many medical prostate procedures (surgery or radiation) have an unwanted side effect of erectile difficulties or impotence and also when men have a problem with their prostate been it enlarged prostate *et al.*, the men have problem with their sex life.

Prostatic secretions also play an expensive function by defending the urethra from urinary tract infections, which appear to be a great deal rarer in men than women.

The prostate, surrounds the upper part of the urethra tube just below the bladder (the prostatic urethra), its controls the flow of urine. It does this by preventing urine from exit the bladder, apart from when unrestricted by urination. It also prevents urine from destructive ejaculate during orgasm. It does this in a very critical way by using the two small prostatic muscles called sphincters. They act as gatekeepers or soldiers with shut-off valves to control and regulate the dual-purpose urethra tube. These gatekeepers or soldiers make sure the right fluids flow at the right time – urination or ejaculation. Great one by God and not a demon at all!

One of the sphincters is situated where the bladder and the upper part of the prostate convene (the interior upper sphincter). In a healthy state, it prevents urination until the man feels the need to go and pee and stops seminal fluid from moving backwards into the bladder during ejaculation. When injured, semen is pushed back into the bladder and finally exits with normal urination. This is known as retrograde ejaculation because the normal one is called ante grade ejaculation and is an added possible side effect of prostate surgery – no chance of seeding a woman then, according to Ronald M Bazar.

The second, external lower sphincter is at the bottom of the prostate and is subject to our control. It prevents dribbling after urinating and is how as men voluntarily can delay urination when ill-timed to go. Incontinence finally occurs when control of either sphincter is damaged and urine leaks or flows uncontrollably, this force many men with prostate problems to wear adult diapers.

But men can voluntarily control the lower sphincter and to stop urine or semen from moving if men have enough Kegel muscle control, the ability to squeeze the flow shut. Any one of these sphincter muscles will block the urine until the push for to peeing

takes control and the timing is right to release and let the urine flow.

An enlarged prostate or BPH can squeeze the prostatic urethra tube and the upper or lower sphincter, making urination difficult with a host of unpleasant, uncontrollable symptoms. BPH surgeries that remove part of the prostate can easily have side effects of incontinence or retrograde ejaculation.

I call the prostate gland the father of men hormones. Because, it contains a vital enzyme, 5-alpha-reductase. This enzyme converts the hormone testosterone in the body to DHT (dihydrotestosterone), which is at least ten to thirty times more powerful than simple testosterone. This potent hormone DHT has numerous function including male sexual drive and function. As men age and at a point in time, a build-up of toxins in the prostate may affect the production of this enzyme, which is then accountable for the declining sex drive in men as they age.

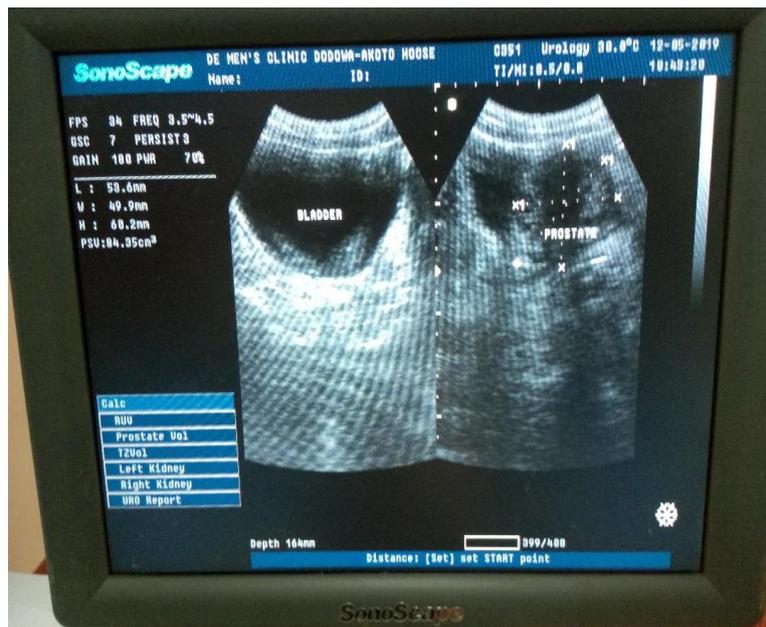
DHT and testosterone have erroneously been under attack as responsible hormones in prostate

problems rather than the extreme rise in modern male estrogen levels, leading to medical interventions with serious side effects including lack of libido. Estrogen levels rise because of the predominance of estrogens in factory foods, commercial meats and dairy and estrogen-mimicking chemicals present in body-care and household products. It's even found in our water and some plastic food packaging.

METHODOLOGY

Eighteen (18) male between the ages 38 to 78 took part in the Medical screening program organized by Naa Teley Foundation and sponsored by the Assemblies of God, Doryumu, in the Shai-Osudoku district in the greater Accra Region during the Mothers' Day celebration.

They were made to drink 500ml of water to aid in visualization of the prostate using Sonoscape A6 grey scale machine. The procedure involved transabdominal procedure which uses a transducer that sends out ultrasound waves at a frequency too high to be heard to visualize the prostate and the bladder.



Transabdominal imaging of the Prostate on Sonoscape A6 grey scale machine

DISCUSSION/RESULTS

Tab 1

AGE(YRS)	PROSTATE SIZE (CM ³)
38	11.09
40	45.4
44	39.64
45	15.0
46	63.7
46	56.87
46	36.0
46	47.86
49	49.85
55	16.09
55	73.23
58	39.9
59	76.0
60	65.34
60	65.8
65	9.79
72	99.0
78	58.08

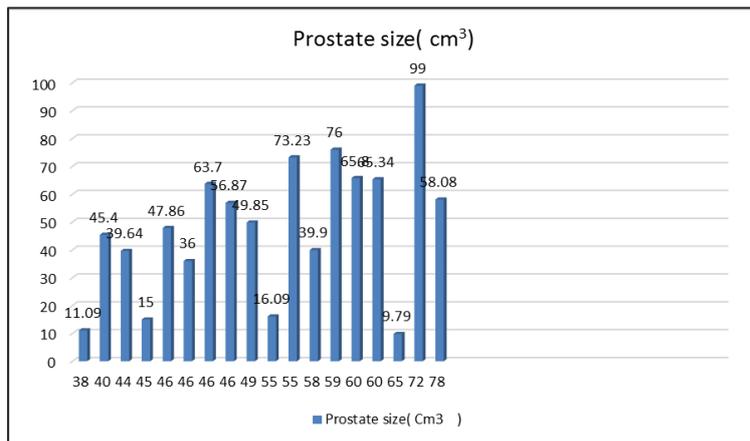


Fig 1

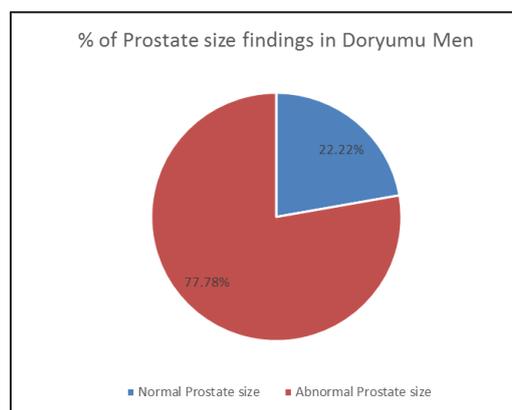


Fig 2

The prostate gland lies between the bladder neck and the urogenital diaphragm, just anterior to the rectum. The gland is traditionally described based on a pathologic zonal construction. These divisions consist of the anterior fibromuscular stroma that is devoid of glandular tissue, transition zone, central zone,

periurethral zone, and peripheral zone. The prostate is further divided into apex and base (directed upward to the inferior border of the bladder) (Ismail, M., & Gomella, L. G. 2001). The normal prostate gland has measures approximately or a volume of 40gram. Seventy percent of all PCa are located in the peripheral

zone, whereas 20% emerge from the transition zone and 10% in the central zone. The neurovascular bundle courses bilaterally along the posterolateral aspect of the prostate and is a preferential pathway of tumour spread.

From the sonographic findings, prostate size does not correlate with aging and irrespective of the age of men, they could have large prostate size (**Tab 1, Fig 1**). Out of the eighteen men screened (18), four (4) had normal prostate size < 40grams representing 22.22 % (**fig 2**).

Prostate volume is calculated by serial planimetry, orthogonal plane, rotational body (single plane, ellipsoid) and three-dimensional methods. Step-section planimetry is rumored to be the most accurate method of defining prostate volume, but it is time consuming and requires cumbersome special equipment (Mitterberger, M. *et al.*, 2010). One-dimensional measurements are preferable in the clinic. The prolate ellipsoid formula, multiplying the largest anteroposterior (height), transverse (width) and cephalocaudal (length) prostate diameters by $0.524 (H \times W \times L \times \pi/6)$ is probably the most commonly used method, since it is rapid, reproducible, and has been shown to have high correlation with the actual prostate volume. The prolate spheroid formula $W \times W \times H \times \pi/6$ seems equally accurate, and has the advantage of requiring measurements in the transversal plane only (Eri, L. M. *et al.*, 2002).

Conclusion/Recommendation

Prostatic diseases in the modern era is gradually no longer disease of the aged. The prostate gland is a very complex gland with numerous functions; and if men do not take good care of it then certain, prostate disease can cause havoc on their health.

I therefore entreat men to do everything possible to be smart and pay close attention to their prostate gland. A detrimental prostate can have a huge

impact on our sexual function and our daily urination. Men must also know the fact that, a large prostate does not always cause urinary problems in men, and 5-alpha reductase inhibitors can cause more problems than fix them.

Conflict of Interest

None

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