



RESEARCH ARTICLE

RELATIONSHIP WITH PSA PROSTATE SIZE IN PATIENTS WITH BENIGN PROSTATIC
HYPERPLASIA AND ITS IMPACT SELF-ESTEEM

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ABSTRACT

The benign prostatic hyperplasia (BPH) is a (noncancerous) malignant growth in the size of the prostate. This enlargement of the prostate gland is produced by a relative increase in estrogen (female hormones) on testosterone (male hormone), which appears in men with age.

Objective: To determine the relationship of PSA, with the size of the prostate in patients with benign prostatic hyperplasia admitted to General Hospital de Candelaria Campeche during the period from September 2015 to June 2016.

Method: patients were studied with the diagnosis of benign prostatic hyperplasia 50 years of age and older and excluded those who had other diseases that may alter prostate specific antigen, subsequently classified by age determined through PSA ultrasound prostate-specific and the average size of the prostate in grams and the average PSA for each age range and the relationship between them, while describes how it affects their self-esteem was determined.

Results: Of the patients studied, 22 belong to the range of 50 to 59 years old (51.16%), 14 to range from 60 to 69 years old (32.55%) and 7 to range from 70 to 79 years old (16.27%). 44.1% of patients presented a prostate of 50 grams, the 51.16% prostates 60 grams and 4.6% a prostate gland of 70 grams. The average size of the prostate in grams was 50 grams in the range 50 to 59 years old, 60 g in the range 60 to 69 years old and 60 grams in the range of 70 to 79 years, and the average value of PSA was 5.5 ng / ml, 6 ng / ml and 7.5 ng / ml respectively. In the range 50 to 59 years of age every gram prostate equivalent to 0.11 ng / ml of PSA in the range 60 to 69 years of age every gram prostate equivalent to 0.1 ng / ml of PSA and the range 70 to 79 years old every gram of prostate equivalent to 0.125 ng / ml of PSA. Similarly we find that the entire population 72% have low self-esteem and problems with its image.

Conclusion: In our environment in the group of 50-59 years old is the highest number of patients with benign prostatic hyperplasia. According to data from INEGI in Mexico 55% of the population with benign prostatic hyperplasia is greater than 64 years and 30% are between 55 and 64 years, which is equivalent in our population to 8% of the total, with a life expectancy of 70 years. In this study the amount of prostate-specific antigen was determined for each gram of prostate and age range being useful this to make an estimate of the amount of prostate antigen only know the size of the prostate using ultrasound prostate especially for patients with low socioeconomic level. Importantly, most they had low self-esteem and this situation affects you emotionally about their sexuality and their innermost feelings with these findings we consider advisable to implement programs that address strengthening self-esteem and other psychological factors involved in pathologies prostatic.

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INTRODUCTION

BPH is the most common in men 50 years tumor, representing the second cause of hospitalization for surgery and the leading cause of outpatient urology departments in regional hospitals BPH is a condition that develops almost 50% of people of the male of 50 years. It is estimated that 1 in 4 men in this age

suffer from this disease. Its frequency increases steadily with age, so that 80 years is estimated that just under 90% of men suffer any symptoms of lower urinary tract as a result of this alteration. According to data from INEGI in Mexico 55% of the population with benign prostatic hyperplasia is greater than 64 years and 30% are between 55 and 64 years, which is equivalent in our population to 8% of the total, with a life

expectancy of 70 years Little is known about the relationship between the size of the prostate with prostate specific antigen, since not been made recent research to determine the relationship of the same, so that through this study is to identify the relationship between each gram of prostate and prostate specific antigen, taking into account that in the middle where the study is performed predominantly middle class - low, in order to make an accurate diagnosis without the need for many resources Incidence and epidemiology. Benign prostatic hyperplasia (BPH) is the most common benign tumor in men and its incidence is related age (Emil A. Tanagho and Jack W. McAninch, 2005). The incidence of histological BPH in autopsy studies increases from about 20% in men between 41 and 50 years of age, 50% in men 51 to 60 years and over 90% in men over 80 years. Although clinical evidence of disease occurs less frequently, symptoms of prostatic obstruction is also related to age. At the age of 55 years around 25% of men feel expresses obstructive voiding symptoms. At the age of 75 years, 50% of patients complain of a decrease in strength and size of the jet urinario (Lockhart *et al.*, 2001). Risk factors for development of BPH is not known in depth, some studies have suggested a genetic predisposition, while others have proposed certain racial differences. About 50% of men under 60 who undergo surgery for BPH may have an inherited form of the disease. Probably this way is probably an autosomal dominant trait and the male first-degree relatives of these patients carry an increased relative risk of about four times². The etiology of BPH has not reached fully understood, but appears to be multifactorial and controlled by endocrine causes. The prostate consists of epithelial and stromal elements and each, either alone or in combination may give rise to hyperplastic nodules and the symptoms associated with HPB (Bertram G. Katsung, 2005). Observations and clinical studies in men have shown clearly that this endocrinologically controlled BPH. Castration results in regression of established and improved BPH symptoms urinaris (McCONNELL, 1995).

Additional research has shown a positive correlation between free testosterone and estrogen and volume of BPH. This suggests that the association between aging and BPH could be a result of increased estrogen values cause of aging induction in the androgen receptor, which thus sensitizes the prostate to release testosterone (FinnGeneser, 2000).

Physiopathology

It is possible to relate the symptoms of BPH, or with the obstructive component of the prostate, or the secondary response of the bladder outlet resistance. The obstructive component can be divided into mechanical and dynamical (Charles Brunnicardi *et al.*, 2006) obstruction. As the prostatic enlargement occurs, the mechanical obstruction may result from growth to bladder neck or urethral lumen, thus leading to increased output resistance of the bladder. The dynamic component of prostatic obstruction explains the variable nature of the symptoms experienced by patients. The prostatic stroma compound smooth muscle and collagen, is richly innervated by adrenergic nerves. The level of autonomic stimulation sets a tone for the prostatic urethra. Use of alpha-blocker treatment that tone decreases, resulting in decreased resistance output (Charles Brunnicardi *et al.*, 2006). The complaints for irritative symptoms of BPH voiding are the result of the secondary response of the bladder to increased resistance out. Obstruction bladder outlet leading to hypertrophy and hyperplasia of the detrusor muscle, and the collagen deposition. While the latter is

most likely responsible for the decline in the adaptability of the bladder, detrusor instability is also an important factor. A general inspection, thickened detrusor do as trabeculae are observed by cystoscopic examination. If left untreated mucosa herniation occurs between beams detrusor, causing formation diverticles (Charles Brunnicardi *et al.*, 2006). Symptoms of BPH can be divided into obstructive and irritative. Obstructive symptoms include delay in starting urination, decreased strength and caliber of urinary stream, urinary urgency, double voiding (urinating for the second time within 2 hours after previous urination), straining to urinate and dripping post urinary. Irritative symptoms include urgency, frequency and nocturia (Dennos L. Kasper *et al.*, 2006). In all patients, physical examination, digital rectal examination (DRE) and neurological examination performed. The size and consistency of the prostate is observed, even when the size there of determined by the EDR not correlate with the severity of symptoms or the degree of obstruction. BPH usually results in a smooth, firm and elastic prostate growth. Induration, if advised, should alert the clinician to the possibility of cancer and the need for further assessment (PSA PSA) and transrectal USG biopsy (Arthur C. Guyton and John E. Hall, 2001). They are needed general urine test to exclude the presence of infection or hematuria, as well as a measurement of serum creatinine to assess renal function. It can be seen renal failure in 10% of patients with prostatism which indicates imaging studies superior (The Journal of Clinical Endocrinology & Metabolism, 2005) tract.

Serum PSA is considered optional, but most doctors usually included in the initial assessment. The PSA compared EDR alone certainly improve the possibility of detection of prostate cancer (The Journal of Clinical Endocrinology & Metabolism, 2005). Prostate Specific Antigen (PSA) is a glycoprotein produced only by the prostate gland. All prostatic diseases can raise PSA levels, including: adenocarcinoma of the prostate, benign prostatic hyperplasia, prostate biopsy, transurethral prostatectomy, acute urinary retention, and acute prostatitis. The digital rectal exam does not present a significant effect on the level of PSA, but ejaculation can cause a transient elevation of less than 1 ng / ml. Therefore presents many false positives regarding the detection of prostate cancer. Prostate biopsy is considered the gold "gold standard" pattern, but usually is made after finding abnormalities on digital rectal examination or elevated PSA, so the sensitivity of the method is overestimated. For detection of prostate cancer, it has been determined that the PSA cutoff value is 4.0 ng / ml. With this value, the sensitivity and specificity of the method varies depending on age and risk factors such as black race and family history of prostate cancer (The Journal of Clinical Endocrinology & Metabolism, 2005). It has been determined that in men with normal rectal exam and according to PSA levels, the probability of cancer is 12-23% with PSA of 2.5-4.0 ng / ml; 25% with PSA 4.1 to 10.0 ng / ml; and > 50% with PSA > 10 ng / ml. Based on these data, you should be careful to properly inform the patient because if you have PSA > 4.0 ng / ml and negative biopsy, can lead to chronic anxiety state or "PSAdinia". Due to the low specificity of PSA calculation, it has been attempted to combine with the measurement result and prostatic volume density (especially transition zone) by ultrasonography not being useful for the technical and logistical difficulties. It has also been proposed to use ranges by age, but has been criticized because it has to also take into account low values the annual variation (variation > 0.75 ng / ml is suggestive of prostate cancer) (Barry, 2001).

Many suggest annual PSA levels but due to the slow growth of prostate cancer suggest other intervals of 2 years. It presents benefits only when it is done from 40-45 years old and up to 75 years or until age 65 if presented persistent low dosages (between 0.5 and 1.0 ng / ml). There are differences between the recommendations of various scientific societies about the benefits of screening for prostate cancer, but it is generally assumed that the PSA detected early prostate cancer in most cases, although there are no large studies, either designed randomized that support it (The Journal of Clinical Endocrinology & Metabolism, 2005). Based on available data, men 50 to 75 years should PSA screening tests performed, age may be lower in subjects with higher in those with good general state of health and risk factors. Always discuss with the patient regarding the risks and benefits of the test, including the following points (Dennos L. Kasper *et al.*, 2006):

1. Potential for prostate cancer is diagnosed
2. Possibility of false positive and negative results
3. Anxiety about a positive test
4. Note that there is no evidence to support that screening reduces the risk of death from prostate cancer.
5. Possible to strengthen their self-esteem

Reference values prostate specific antigen adjusted to age

Agerange	Normal rate of PSA (ng/ml)
40 – 49	0 – 2.5
50 – 59	0 – 3.5
60 – 69	0 – 4.5
70 – 79	0 – 6.

Differential diagnosis

Other obstructive disorders of the lower urinary tract such as urethral stricture, contraction of the bladder neck, stone in the bladder or prostate cancer should be considered when men who have BPH presumed valued. Usually hematuria and pain are associated with bladder stones. Prostate cancer can be detected by abnormalities found in the EDR or high antigen prostático (Calderón *et al.*, 1992; Brown and Feuer, 1997). An infection can mimic urinary tract irritative symptoms of BPH can be identified quickly by urinalysis and culture; however, a urinary tract infection can also be a complication of BPH. Similarly, patients with neurogenic bladder disorders one may have many of the signs and symptoms of BPH, but may also be present a history of neurological disease, stroke, diabetes mellitus or injury medular (García *et al.*, 2005; Stephen J Mcphee and Maxime A. Papadakis, 2010; McConell, 1995). Note that the above can affect humans emotionally in their personal relationships and their sex life, a situation that we consider not lose sight because the symptoms of this disease can have negative effects, because it is difficult to feel comfortable in the privacy when you do not have complete control of the body, episodes of incontinence or emergencies can lower self-esteem and adverse effects of certain drugs - such as loss of sexual desire or erectile dysfunction - can increase low self-esteem. Psychologically this disease can have different emotions to the belief that can affect sexual function, according Vinaccia, (2006). The same author mentions that BPH does not necessarily have to affect sexual function (erection, sexual activity, sexual desire, sexual potency and sex), it seems that psychological stress generated by the diagnosis of BPH is more related to a possible sexual dysfunction than the disease itself, therefore the perception informed and positive attitude are

essential to prevent a deterioration in self-esteem and quality of life of patients.

Similarly, raises Giraldo (1995), the man who is aging keep your sexual potential indefinitely if not swayed negatively by popular myths, by their own misconceptions and fears, or beliefs of their peers. Some individuals, particularly males, suffering a deep wound to his self-esteem by lack of sexual opportunities or the false belief that it is about sexual weakness, because the culture has overvalued sex as a sign of masculinity. The actual situation is not decreased sexual interest but having to overcome the psychosexual problem that faces the popular belief the individual who sexually supposed prevented.

MATERIALS AND METHODS

An observational, retrospective, descriptive cross-sectional study was conducted over a period of 10 months. For the sample size to those included patients aged 50 and older who have a diagnosis of Benign Prostatic Hyperplasia who entered the General Hospital of Candelaria Campeche to the area hospital over a period of 10 months and counting ultrasound prostate and prostate specific antigen results for the period September 2015 to June 2016. All patients under 50 years of age were excluded and who do not have the diagnosis of benign prostatic hyperplasia. For data collection records of all patients over 50 years of age entered the area of Hospitalization and patients were selected with the diagnosis of benign prostatic hyperplasia and have ultrasound prostate and prostate specific antigen is collected, subsequently they took the data on the size of the prostate ultrasound in grams and the amount of PSA in ng / ml, and were collected in a data sheet relating the size of the prostate by age, the amount of PSA by rank age and the ratio of prostate size in grams and PSA. Scale Rosenberg Self-Esteem (1965) validated for adults and elderly people Rojas (2009) was used, it is one-dimensional and consists of 10 items, phrases which 5 are set out in a positive and 5 negative for monitor the effect of the aquiscencia. The content of the items is general, allowing to obtain data on the feeling of satisfaction or dissatisfaction of the person herself.

RESULTS

During the ten-month study entered the area of hospitalization of the General Hospital of Candelaria Campeche 43 patients with the diagnosis of Benign Prostatic Hyperplasia of which 22 patients were in the range of 50 to 59 years old (51.16%), 14 in the range of 60 to 69 years (32.55%), and 7 in the range of 70 to 79 years (16.27%) (Graph 1). Of the 43 patients, 44.1% of them has a prostate of 50 grams, the 51.16% prostates of 60 grams and 4.6% a prostate gland of 70 grams (Graph 2). Of all the patients in the age range of 50 to 59 years an average size of the prostate of 50 grams, of patients in the range of 60 to 69 years, a prostate of 60 grams and the range of 70 to 79 years was obtained prostates age 60 gr (Graph 3 and 4). Regarding the value of PSA was obtained in the range of 50 to 59 years a mean value of 5.5 ng / ml, in the range of 60 to 69 years an average mean value of 6 ng / ml and in the range of 70 to 79 years an average of 7 ng / dl (Figure 5). Within the relationship between the size of the prostate in grams and PSA observed in patients located in the range of 50 to 59 years of age every gram prostate equivalent to 0.11 ng / ml PSA, in range of 60 to 69 gram prostate equals 0.1 ng / ml and PSA in the range of 70

to 79 years of age every gram prostate equivalent to 0125 ng / ml PSA. (Table 1). Similarly we find that the entire population 72% have low self-esteem and problems with its image. There were no differences between the percentage and high levels intermediate.

DISCUSSION

BPH is the most common benign neoplasm, according to studies the frequency at 40 years of age is 25% and at 80 years of age may even 100%. The diagnosis in our country is difficult due to the concept that the changes caused by urinary obstruction are part of the normal aging process. US occur in approximately 1.7 million inquiries annually for prostate hyperplasia which 300 000 patients end up in surgery at a cost that exceeds 2 billion annually. According to data from INEGI in Mexico 55% of the population with benign prostatic hyperplasia is greater than 64 years and 30% are between 55 and 64 years, which is equivalent in our population to 8% of the total, with a life expectancy of 70 years. Age has been considered a risk factor for the development of prostatic hyperplasia in men, paradoxically develops when testicular function is declining. It has been shown in previous studies that the disease rarely occurs in men under 40 years of age, nor in males castrated before that age, on the other hand experimental studies have gathered enough evidence to affirm the relationship between hormones and pathogenesis prostatic hyperplasia. In our study it was observed that all patients excelled those who are in the range of 50 to 59 years old and important data about the size of the prostate and prostate antigen age range were obtained. Finally the amount of prostate-specific antigen was determined for each gram of prostate by age, so this would be beneficial for people of medium - low do not have sufficient resources to afford the necessary studies for diagnosis and that through such data can make a rough estimate of PSA with only determine the size of the prostate in grams either by rectal examination or prostate-digit ultrasound.

Conclusion

As final conclusions determined that in our population that predominates with benign prostatic hyperplasia is in the age range of 50-59 years old, since within the 43 patients that the study 22 of them underwent (51.16%) they were classified in this range. Of all the patients presented a 51.16% prostate of 60 grams being the most common weight in patients with benign prostatic hyperplasia mainly found in patients 60 to 79 years old. Likewise it was determined that the average amount of PSA in the range 50 to 59 years of age is 5.5 ng / ml, in the range of 60 to 69 years of age is 6 ng / ml and in the range of 70 a 79-year-old is 7.5 ng / ml. Finally it was found that per gram prostate in the range of 50 to 59 0.11 mg / ml, occurs in the range 60 to 69 years 0.1 ng / ml is produced and in the range of 70 to 79 occurs 0125 ng / ml. This data is very important to make an estimate of the amount of prostate specific antigen determining only the size of the prostate by digital rectal or prostate ultrasound especially for patients of middle socioeconomic level examination - under not have the resources enough for both studies to be performed. Because most patients had low self-esteem and emotionally affect them in terms of their sexuality and their most inner feelings, we consider advisable to implement education programs and

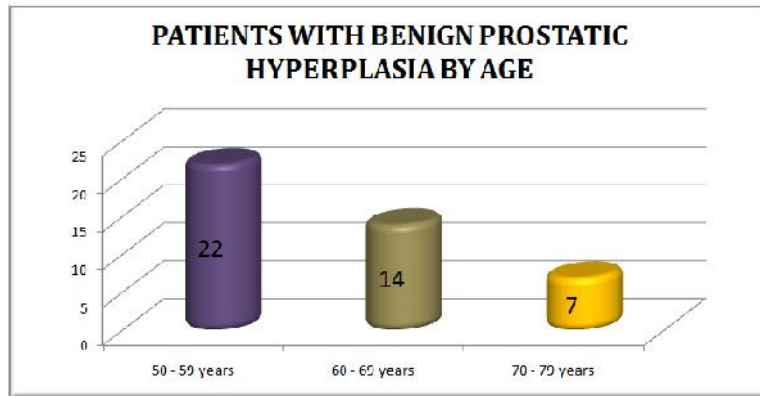
general information about their disease and the real implication that this has on its development normal process of life and addressing the strengthening of self-esteem and other psychological factors involved in prostate pathologies.

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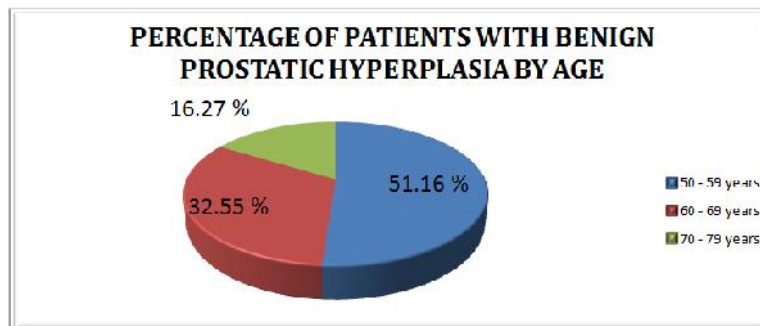
ANNEXES

Graph No. 1



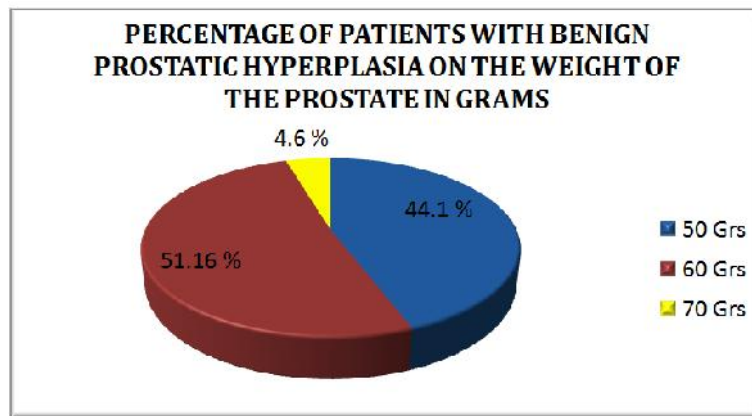
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Graph No. 2



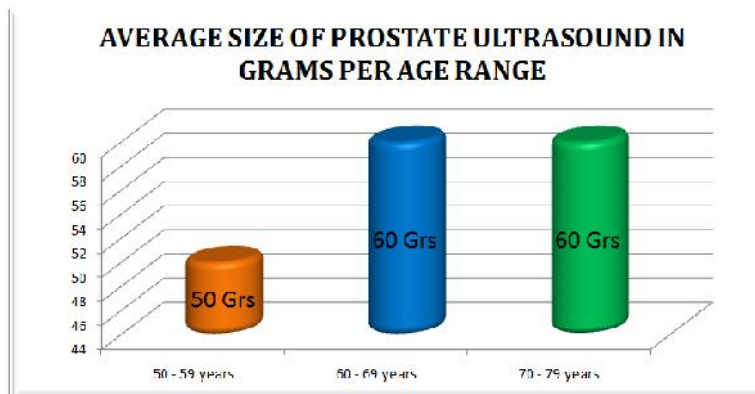
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Graph No. 3

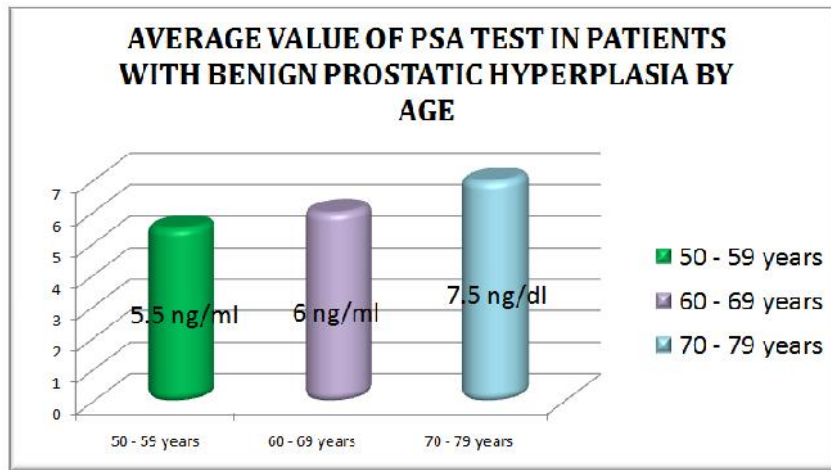


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Graph No. 4



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Table 1.

Age range	Relationship	
	Prostate	Prostatic antigen
50 a 59 years	1 grams	0.11 ng/ml
60 a 69 years	1 grams	0.1 ng/ml
70 a 79 years	1 grams	0.125 ng/ml

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