PREVALENCE, MYTH, PREVENTION AND MANAGEMENT OF PROSTATE CANCER

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Abstract

Prostate cancer is the second most typical cancer diagnosis made in men and the fifth most prevalent reason for death worldwide. Early-stage prostate cancer typically develops slowly and without signs, necessitating only active surveillance. According to GLOBOCAN 2018 estimates, 1,276,106 new cases of prostate cancer were recorded worldwide in 2018, with high-income countries possessing a higher prevalence. Worldwide variations in incidence rates are a result of diverse strategies to diagnostic testing and early detection as well as management institution. Men above 65 years old possess the highest incidence of prostate cancer, and both incidence and mortality rates are highly correlated with age. In comparison to White men, African-American men have the highest incidence rates and the most severe form of prostate cancer. Although, there is currently no proven method to avoid prostate cancer; however, it is possible to lower the risk through dietary and life style modifications by limiting high-fat foods, consuming more fruits and vegetables, as well as exercising more. Also, at age 45, screening is strongly advised for men with a family history and African-American men. Up-to-date search report on prostate cancer incidence and outcomes along with a better understanding of the etiology and causative risk factors are crucial for the initial control of this disease.

Keyword: Prevalence, Prostate cancer, Myth, Management

Introduction

The top prevalent and second-most frequent disease in males, prostate cancer is the fifth greatest cause of death worldwide. According to Rawla (2019), prostate cancer, is second most typical disease in males globally after lung cancer, caused 1,276,106 new cases and 358,989 deaths (or around 3.8% of all deaths from cancer in men) in 2018. Both the incidence and mortality of prostate cancer are internationally connected with ageing, having a median age of 66 years at diagnosis, according to Global Cancer Incidence, Mortality and Prevalence (Globocan, 2022). In contrast to White men, African-American men had 158.3 new cases identified per 100,000 males, and their transience is around double that of White Men (Panigrahi et al., 2019). The occurrence and appearance of prostate cancer have all been related to social, environmental, and geographic variables, according to evidence. But because it advances slowly and usually goes undetected, early-stage prostate cancer merely requires active surveillance (Sung et al., 2021).

A global estimate of 1,414,259 new instances of prostate cancer and 375,304 deaths associated with it were recorded, with industrialized countries having a higher prevalence, according to Wang et al. (2022). Various approaches to diagnostic testing are the root of regional and international variances in incidence rates. Prostate cancer death rates are highly connected with age, and men over 65 are more likely to develop it (Culp et al., 2020). African-American men experience the highest appearance rates and the most aggressive form of prostate cancer when juxtaposed with White males (Rawla, 2019). The risk of prostate cancer can be reduced by eating less high-fat meals, more fruits and vegetables, and exercising more, even if there is now no proven strategy to prevent the disease (Ferlay, 2019). A deeper understanding of the etiology and both causative risk factor, as well as current statistics on the incidence and mortality of prostate cancer, are crucial to primary prevention of this condition (Ferlay et al., 2019).

Screening should begin at age 45 for all men, but it should begin earlier for men with a family history and men of color.

According to Bray et al. (2018), prostate cancer may possibly be asymptomatic in its early stages and develop slowly, necessitating little or no therapy. Although prostatic enlargement may also cause these symptoms, urinary issues and increased frequency, and nocturnal urination are commonly most complaints (Reiter-Brennan et al., 2021). As the axis skeleton is the most typical location of bone metastatic illness, more advanced stages of the disease may manifest with urine incontinence and back discomfort (Ferlay et al., 2019). High plasmatic levels of prostate-specific antigen (PSA > 4 ng/mL), a glycoprotein typically produced by prostate tissue, are the basis for the identification of many prostate malignancies. The standard treatment to rule out cancer is a tissue biopsy, however this is because men without cancer have also been shown to have increased PSA levels. (Bray et al., 2018) Additionally, food and exercise have a big impact on the occurrence and progression of prostate cancer. However, dietary variables are largely responsible for the observed geographical and ethnic differences in prostate cancer occurrence rates (Ferlay et al., 2019).

Despite the fact that prostate cancer affects men on a regular basis, there are a few myths and misconceptions surrounding the disease that have an impact on how quickly it is diagnosed, treated, and how often it kills its male victims (Hansen, 2022; Walker et al., 2016; Vis et al., 2015).

Watchful waiting, active monitoring for early detection and diagnosis, radical prostatectomy by surgery, and radiation are all common therapeutic interventions for prostate cancer same with surgery or radiation treatments like brachytherapy or external beam radiotherapy. The utilization of clinical trials as a kind of treatment is also possible (Hansen, 2022; Walker et al., 2016; Vis et al., 2015), to be more specific.

Higher Gleason scores, which are used as a grading system to describe your prostate cancer degree of abnormality and how likely the cancer is to advance and spread, are frequently advised for because the cancer may spread more quickly in these patients (Bahara & Aquel, 2022). Radiation treatment employs high-energy radiation to either eradicate or slow the development of cancer cells (Collins & Cheng, 2022). Radiation therapy can be a treatment of prostate cancer more often than surgery. It can also be utilized post-surgery if the malignancy is not entirely removed or if it returns. In general, surgery, which entails removing the entire prostate along with any associated glands and occasionally a section of the lymphatic system, or radiation are the two most effective ways to treat localized prostate cancer (Williams et al., 2022). When treating spread of prostate cancer outside of the prostate, hormone treatment is occasionally administered before radiation therapy to decrease the tumor and halt its development. It essentially makes the tumor smaller and makes radiation therapy more effective (Maalkiewicz et al., 2022).

Although there is no 100% surefire strategy to avoid prostate cancer, there are several things' men may do to potentially reduce their risk. If a person has certain risk factors, preventing prostate cancer may be challenging, but early screening can assure an early diagnosis and effective treatment. (Craig et al.,2022) By adopting healthy diets and lifestyles, men of all ages, races, and genetic backgrounds can lower their hazard to acquiring prostate cancer. (Cheng, 2022) Prostate cancer can be prevented in large part by maintaining a healthy body weight,

exercising often, and watching what one eats and drinks. As a result, the purpose of this lecture is to talk discuss the occurence, misconceptions, treatment, and prevention of prostate cancer.

It appears that there is a lack of knowledge regarding the prevalence and mortality rates of prostate cancer, and that professionals in the medical field frequently fail adequately inform high-risk individuals about the value of prostate cancer screening before age 50. This is despite some research suggesting that it is unclear whether the higher prevalence of prostate cancer in males from Nigeria and other West African countries is caused by a biophysical factor. However, the extensive prostate specific antigen (PSA) testing and subsequent biopsy that has occurred in those areas is likely to blame for the elevated incidence rate that has been seen. Patients typically die within 2 - 3 years of their diagnosis, with a few exceptions, such as one patient who lived for 46 months after being diagnosed with orbital metastasis of prostate cancer, according to Adedimeji et al. (2017). Patients typically occur in late phases of the disease with an average duration of 6-8 months symptoms.

The data from Ibadan, however, appear to show a steady movement away from high grade tumors to intermediate grade tumors, albeit incidence statistics are still insufficient (Okolo, 2021; Adedimeji et al., 2017). Most documented individuals have received orchidectomy or other types of hormonal medication management because of the frequently delayed presentation. It is understood that over time, people develop resistance to various hormonal interventions. Radiation treatment has been utilized for metastatic illness (Yao et al., 2022; Olapade-Olaopa et al., 2008). Once more, reports of survival studies are few. However, it was reported that there was insufficient information on the frequency and fatalities of prostate cancer due to the limited number of cancer registries that provide reliable data (Zavala et al., 2021; Zeng et al., 2015 Zeng et al., 2015) and the disparity on treatment outcomes observed when compared with other African-Americans population. Furthermore, findings from a number of research (Ezenwankwo et al., 2022; Tijani et al., 2017; Jeddy-Agba et al., 2012) revealed that Nigeria and many other West African nations lack a well-established prostate cancer screening strategy.

Additionally, there has been a recent effort to establish a screening programmed to ensure early prostate cancer diagnosis, but there are challenges because there aren't enough qualified urologists in any of these countries, most of whom work in practices within large urban centers, and there isn't enough funding for those who may be detected to receive follow-up care (Turkeybey & Chovke, 2018). There is considerable debate surrounding the precise value of screening methods, but it is generally agreed that using PSA measurement, digital rectal examination (DRE), and prostatic ultrasound scanning in combination will substantially increase the rate of early cancer detection (Radtke et al., 2017; Fascelli et al., 2016). There are several beliefs surrounding prostate cancer as well as misunderstandings are prevalent about everything around us (Ronningas, 2022). Therefore, this article aims at exploring literature to establish the prevalence of prostate cancer, identify myth associated with prostate cancer, management and prevention of the condition.

Prevalence of Prostate Cancer

Globally

According to Ojulari (2019), due to the escalating rates of male morbidity and death from prostate cancer, about 1 in 9 men will receive a lifetime diagnosis of the disease. As a result, prostate cancer has emerged as a major worldwide health concern. Africa has a 26.6% incidence rate and 1.28 million cases, it was ranked as one of the most prevalent cancers by the World Health Organization (WHO, 2018). Unfortunately, more than 100,000 Nigerians receive a cancer diagnosis each year. Prostate cancer is the top prevalent organ cancer in African-American males, according to projections from the American Cancer Society for 2022. About 37% of all cancer cases in African-American men were caused by it. (41,600 people) and 17% of total cancer-related deaths (Lokeshwar et al., 2022). Compared to White people, this rate is 72% higher among African Americans. African Americans have a 1:6 lifetime chance of having prostate cancer compared to a 1:8 lifetime risk for Whites. Prostate cancer fatality is more than twice as common in male African Americans. (37.9 vs. 17.8 per 100,000). The good news is, African Americans are experiencing a decline in prostate cancer fatality rates much quicker than Whites or the overall population (Lokeshwar et al., 2022).

Prostate cancer was the second-most frequent cancer diagnosis in males and the fifth greatest worldwide cause of death, according to Global Cancer Incidence Mortality and Prevalence (2022), with an estimated 1,276, in 2018, there were 106 fresh occurrences of prostate cancer recorded across the globe, accounting for 7.1% of all male cancers. It's interesting to note that, despite a global trend towards an increase in prostate cancer incidence, it is predicted that, by 2040, mortality rates would have doubled, with 379,005 people dying globally and Africa having the greatest incidence of prostate cancer (GLOBOCAN, 2021). 376,800 fatalities from prostate cancer were reported in 2020, according to GLOBOCAN, reflecting the disease's 3.8% mortality rate. There were 1.408.900 new cases of the disease. But this was said to be comparatively modest in comparison to the 1.782,000 (18.0%) lung cancer-related fatalities. Additionally, when compared to other malignancies between the years 2016 and 2020, prostate cancer had the largest prevalence instances worldwide, totaling 4,617,606 (20.1%), according GLOBOCAN (2021). Prostate cancer had the highest frequency in Africa as well, accounting for 168,696 (35.0%) of the 474,169 total cancer cases among African men aged 0 to 84 between 2016 and 2020 (GLOBOCAN, 2021).

Nigeria

According to research (Mohammed et al., 2021; Yusuf et al., 2017), Nigeria has the biggest population and economy in Western Africa and the fifth top risk of prostate cancer death worldwide. Due to this, prostate cancer is the most leading and lethal disease in Nigerian males, with 32.8 cases and 16.3 deaths per 100,000 men (Mohammed et al., 2021). With an estimated 80% of Nigerians being diagnosed as incurable, this is more than twice as common as death in

North America, according to the study report. Prostate cancer accounted for 46.4% of all newly identified prostate pathologies in studies done in Lagos, according to Emiogun et al. (2021), which is much higher than the range of 22.4% to 37.4% reported from other regional part of Nigeria by Mohammed et al. (2021) and Okeke et al. (2021).

However, the high prevalence rate in Lagos was linked to the fact that the state government had recently begun a free prostate cancer screening exercise for certain older individuals. This led to a high turn-out of participants, individual who had been diagnosed of prostate disease, and was responsible for the high prevalence rate. Lagos is also the largest populated city in Nigeria and its commercial hub (Emiogun et al., 2021). Evidence from various regions of Africa indicates that prostate cancer incidence increases after the age of 50 (Culp et al., 2020; Rwala, 2019; Taitt, 2018). Prostate cancer was observed in two participants aged 30 and 32 years, according to Oluwole et al. (2015) in Zaria, Nigeria. The highest age of diagnosis was the sixth decade, with a mean of 64.5 years.

Additionally, 8,382 (58.5%) out of 14,334 deaths among males aged 0-84 in Nigeria were attributed to prostate cancer, according to GLOBOCAN (2021). As a result, it is predicted that 1 out of 8 men would receive prostate cancer diagnosis throughout their entire existence, with individuals 65 years of age or older receiving the diagnosis in 6 out of 10 instances (GLOBOCAN, 2021). Prostate cancer fatalities increase with age, and over half of all deaths occur beyond the age of 65 (Ferlay, 2019). Although only 1 in 350 males under 50 years would receive a prostate cancer diagnosis, this number increases to 1 in 52 men between the ages of 50 and 59 (Medipallyl et al., 2020).

Myths Associated with Prostate Cancer

Although prostate cancer is common, there are many misconceptions and misunderstandings about the disease's risk factors and what to do if you are diagnosed with it (Mbugua et al., 2021). Prostate cancer awareness is crucial for getting the correct diagnosis and treatment. The discovery of prostate cancer nearly invariably comes as a complete surprise, is not anticipated, and is of course quite disruptive. Due to myths and misconceptions regarding the disease, prostate cancer causes widespread cognitive dissonance and overestimation of the disease's prognosis in many men (Wachira et al., 2018).

According to evidence, prostate cancer is the second most frequent malignancy in males globally and the sixth most common cause of death (Bray et al., 2018). Asian men have a lower incidence of prostate cancer than African, African-American, and Caucasian men, according to statistics from the past few decades, but it is unquestionably rising (Rwala et al., 2019). Over the past 20 years, significant progress has been achieved in the fight against prostate cancer due to the creation of novel medications such as cytotoxic medicines, antiandrogens, and immunotherapeutic treatments for improved cancer management. Additionally, improvements in surgery and radiation are intended to increase the percentage of cancer cases that are cured or controlled while minimizing side effects and long-term morbidity (Ferlay et al., 2018). Despite these developments, there are still a lot of myths about prostate cancer. More knowledge will assist in reducing worries about this illness.

Myth 1: Prostate cancer does not exist since there are no symptoms

Most men belief that they do not have prostate cancer since they have no existing or proofing symptoms. However, early stage of prostate cancer can be deceitful as majority of Prostate cancer are asymptomatic in early stages, while advanced stages are when symptoms appear. (Barcocas et al., 2017). Totally asymptomatic subjects have presented with complications like bone fractures because of metastatic cancer. So, it is essential to undergo evaluation in light of the risk factors like a positive family history, diabetes and obesity (Barcocas et al., 2017).

Myth 2: Prostate Cancer affect elderly Men

Most men belief that prostate cancer affect only the elderly male. Although majority of males with prostate cancer are older adults, however, it can affect younger men, too (Spendelow et al., 2018). About 40 percent of all cases occur in men younger than 65

therefore, it is not uncommon at all for men in their fifties and some in their forties to have prostate cancer (AC, (2019). Additionally, there are many men diagnosed with prostate cancer in their 40s and 50s, but over 70% of those diagnosed are over 65. Prostate cancer is more likely to take place in people with a strong family history of the disease, particularly in first-degree relatives (Groarke et al., 2020).

Myth 3: Prostate cancer is responsible for High PSA

Prostate-Specific Antigen, or PSA, is unique to prostatic conditions but not to malignancy. Prostatitis, benign prostatic enlargement, prostatic abscess and acute urinary retention are other conditions that are associated with elevated PSA values in addition to this kind of cancer (Han et al., 2021).

Myth 4: Anyone with an elevated PSA level has prostate cancer

The prostate gland ordinarily produces modest amounts of the protein known as PSA (prostate-specific antigen). It facilitates semen liquefaction, which enhances sperm motility. Prostate cancer is not always present in individuals with elevated PSA levels above the usual range (greater than 4 ng/ml) (Mastubara et al., 2020; Comford et al., 2017). More so, PSA is an antigen that is unique to the prostate, not to prostate cancer. The presence of prostate cancer may be indicated by elevated PSA, but confirmation requires a consultation with a urologist, a clinical examination, and more research. The PSA levels are known to increase in cases of urinary tract infection, acute prostatitis, urine retention, and benign prostatic enlargement. Contrarily, not all men with prostate cancer have increased PSA levels (Hemma et al., 2017). There are certain less common prostate cancers that can manifest without an elevated PSA. Therefore, consulting a urologist is essential for interpreting PSA readings in a clinical setting (Mastubara et al., 2020; Comford et al., 2017).

Myth 5: Given the rarity of prostate cancer, screening is not necessary

Serum PSA levels are routinely checked in asymptomatic individuals for prostate cancer. Even while this method has drawn criticism from many urologists, it has been utilized widely in western nations and may now be relevant given the rise in PCa cases (Tatti et al., 2018).

However, through screening, one has the chance to detect the illness when it is still treatable with minimal morbidity (Ferraro et al., 2021).

Myth 6: Belief that My Father Had Prostate Cancer, So I Will, Too

Some men have the notion that once their father has prostate cancer automatically, they will have it. Although evidences suggested that if a man has one relative with prostate cancer, his odds of having it are two times higher than someone who does not have the family history (Malika et al., 2022). The risk increases five times when there are two affected family members. However, not everyone who has a family history of prostate cancer will develop it themselves (Malika et al., 2022).

Myth 7: Enlarge prostate gland increase the risk of prostate cancer

Prostate cancer is extremely uncommon compared to benign prostatic hyperplasia, which is a non-cancerous growth of the prostate. The likelihood of developing cancer does not appear to be directly correlated with the size of the gland. Actually, most big prostate glands are benign (Buhigas et al., 2022; Geaed et al., 2018; Sharma et al., 2017).

Myth 8: Prostate cancer treatment is difficult and is linked to misery and impairment that lasts a lifetime

It is also believed that treatment and management of prostate cancer is connected with more difficulties, and irreversible complications especially the aspect of sexuality (Salonia et al., 2017). However, there have been significant improvements in the disease therapy and on this account, both the illness and its treatments morbidity have decreased. Additionally, there has been an improvement in cancer-specific survival. Consequently, treatment should be taken into consideration at any time after a cancer diagnosis (Gaed et al., 2018).

Myth 9: Prostate cancers are not serious and do not require treatment

In some countries especially in low-income countries like Nigeria, more than half of prostate cancer cases are discovered in advanced stages, after the disease has migrated outside the prostate gland (Ferlay et al., 2018). Complications from advanced malignancies can include limb swelling, renal failure, and bone fractures. Therefore, regardless of stage, prostate cancer must be treated immediately upon diagnosis (Ferlay et al., 2018). Additionally, when the illness is restricted to the prostate, the likelihood of a cure rises.

Myth 10: Treating advanced malignancies is pointless since most men pass away before the disease is fully treated

Prostate cancer, in contrast to other malignancies, responds effectively to a variety of treatment regimens, with high survival rates even in advanced stages. Even in advanced prostate cancer, the quality of life can be good because to recent improvements in hormone therapy. Therefore, even when prostate cancer is advanced, treatment should be given (Bruni et al., 2020).

Myth 11: Urinary symptoms are always a sign of prostate cancer

Not all individuals with prostate cancer have urine symptoms, although it is true that some patients have prostate cancer detected during review of urinary symptoms. Depending on the severity of the disease in the body, a rising PSA, stomach pain, foot swelling, and bone aches can all be signs of prostate canc er (Nishimura et al., 2022).

Myth 12: Prostate cancer always progresses slowly

It is a fact that not all prostate tumors allow for active surveillance, despite the fact that low-grade disease might spread slowly and give ample time to do so. A urologist's specialist assistance is required to differentiate between the more hazardous and benign prostate cancer variants since high-grade illness and some of its variants can be extremely aggressive (Mottet et al., 2021; Costello, 2020).

Myth 13: Prostate cancer always needs to be treated with radiation or surgery

Although the majority of organ-confined prostate tumors require either radiation therapy or surgery for treatment, there are many low-grade tumors that can be watched for a period before they need to be treated (active surveillance) (Romero-Otero et al., 2016). The other circumstance in which treatment can be postponed or avoided is in the case of watchful waiting, which is used when persons are newly diagnosed with low-grade organ-confined prostate cancer and possess a life expectancy of under 10 years (due to age or other health issues). When cancer has progressed to various body part, such as the bones, lungs, brain, liver, and lymph nodes outside the pelvis, treatment is still limited to medication (Sebesta & Anderson, 2017).

Myth 14: Prostate cancer risk is increased by sexual activity

The opposite is true, according to studies, more ejaculations each month are associated with a lower risk of prostate cancer in individuals. (Rwala. 2019).

Myth 15: Prostate Cancer cannot be treated again if it reoccurs

Prostate cancer recurrence can be agonizing. However, just because a cancer recurs does not preclude victims from experiencing remission once more (Rwala et al., 2019). What it does imply is that patient will probably need to try a different course of action. The best cancer treatment is always the first one, but if cancer returns, there is a chance for cure, especially if you had a radical prostatectomy initially. In this situation, if discovered early, you can radiate and obtain a decent cure rate (Bray et al., 2018).

Diagnosis of prostate cancer

Although PSA testing for screening is still debatable, prostate cancer is the most often detected malignancy and is identified via MRI scans, prostate tissue biopsies, and PSA testing (Tikkinen et al., 2018). There are currently several new diagnostic tools accessible, such as risk stratification bioassay tests, germ line evaluation, and different PET scans (Tikkinen et al., 2018). If the illness has spread outside the prostate, however, other specialised remedy such as bisphosphonates, hormonal therapy, chemotherapy, radiopharmaceuticals, rank ligand

inhibitors, immunotherapy, focused radiation, and others may be used to manage the condition (Coleman et al., 2020). Prostate cancer is considered localized and potentially curable when it is restricted to the prostate. Age, related health issues, tumor histology, and the stage of the malignancy all affect outcomes (Park et al., 2018).

The median men age who receives prostate cancer diagnosis is 70 years old, with the lowest and greatest ages ranging from 50 to 90 years old (Emiogun et al., 2021). The majority of occurrences of prostate cancer, which peak in frequency in the 70s and affect men aged 65 and older, are reported to occur after age 50 according to WHO (WHO, 2004). Numerous cases of prostate cancer are found based on high plasmatic levels of prostate-specific antigen (PSA > 4 ng/mL), a glycoprotein usually produced by prostate tissue. A tissue biopsy is the standard of treatment to rule out cancer, however, this is due to the fact that males without cancer have also been proven to have higher PSA levels (Rwala, 2019).

Decisional Management of Prostate Cancer

The kind and stage of the illness will dictate how the prostate cancer is managed, but the first step in treating prostate cancer is to decide if any therapy is necessary (Adamk et al., 2021; Klotz, 2020; Tosoian et al., 2016). especially in elderly individuals and people with comorbidities that would fairly lower life expectancy to 10 more years or fewer, prostate cancer, especially low-grade tumours, often develops so slowly that therapy is frequently not necessary (Shamsudeen et al., 2021). The best cure depends on the cancer's level, Gleason score, PSA level, also preferences of each patient, general health, comorbidities, quality of life, and age (Adamk et al., 2021). Prostate cancer management typically entails active surveillance, focal ablation for localized prostate cancer, and hormone therapy. However, it hasn't been proven that family history is a reliable predictor of substantial predictive danger element for advancement (Mangolini et al., 2022; Jibara et al., 2022). Heritable variables from germline testing could potentially be very important for patients, especially those on active monitoring.

Active surveillance is often used to monitor low-risk prostate cancer cases, and patients are typically asked to have frequent PSA evaluation and at least one further biopsy 12 to 18 months after the initial diagnosis (Olleik et al., 2018). For males with low-grade prostate cancer, active, Gleason 3+3=6 or less, a PSA of less than 20, and small tumours, according to Shamsudeen et al. (2021). Although certain lower-risk intermediate-grade prostate cancers may benefit from persistent surveillance, (Gleason 3+4=7 with a PSA less than 10) is debatable, it appears reasonable in some cases (Shamsudeen et al., 2021; Eggener et al., 2015). This is because some intermediate-grade tumours with Gleason 3+4=7 may also qualify for continous surveillance. By accurately measuring and determining the actual proportional risk of tumour growth and aggressiveness under these stressful conditions, tissue-based biomarkers and genetic testing can provide some substantial advantages. However, when the PSA is between 10 and 20 ng/ml or when the tumor volume is raised, genomic testing may be highly beneficial (Romero-Otero et al., 2016).

Furthermore, in active surveillance, patients can be followed with prostrate MRI without the inconvenience of recurrent biopsies in order to identify those who will experience markedly elevated PSA levels, clinical advancement, or an increase in Gleason score (Kasivisvaanathan et al., 2018). The great majority may be safely avoided the expenses, difficulty, side effects, and

problems of definitive curative therapy while this suggests a potential conversion to a more aggressive malignancy. According to Cooley et al. (2021), several traits frequently have a predictive influence on patients under active surveillance and should thus be taken into account. Evidence therefore pointed to a possible relationship between high-risk clinicopathological characteristics and an early time to cancer development or upgrading. The length of the Gleason pattern 4 on the initial biopsy has also been proven to affect the likelihood of future progression for individuals under active surveillance (Perera et al., 2022). Because these patients tended to act more like those with higher-risk malignancies, increased tumour volume was also discovered to have a substantial unfavourable prognostic effect. (Perera et al., 2022).

Definitive therapy should only be given to patients who, based on their age and co-morbidities, can reasonably be expected to live another ten years or longer, as the majority of patients with localized prostate cancer experience very little differences in overall survival for at least ten years regardless of treatment choice (Wang et al., 2018). Radiation therapy employing an external beam and/or Brachytherapy radioactive seed insertion, cryotherapy and radical prostatectomy, which is often used for radiation therapy failures, are now included in the definitive treatment of localized illness (Goy et al., 2020). In comparison to radical prostatectomy surgery, radiation treatment typically has around 50% less side effects with a relatively similar overall survival rate (Goy et al., 2020).

Prostatectomy is the surgical treatment that is used the most frequently to treat prostate cancer. According to Anu et al. (2022; Tosoian et al., 2017; Kishan et al., 2017), radical prostatectomy has the best chance of providing a permanent cure for locally advanced prostate cancer as well as a significant increase in cancer-specific survival, overall survival, and the chance of acquiring distant metastases. These advantages over alternative conclusive, curative treatments are mainly noticeable in males who are under 65 at the time of diagnosis and do not become apparent until ten years following therapy for localized illness. If the tumor is attached to nearby tissues or there are distant metastases, radical prostatectomy is not the best course of treatment (Shamsudeen et al., 2022; Pietzak & Eastham, 2016). The bulk of these operations are now performed laparoscopically or robotically, and overall, there doesn't seem to be much of a difference between the minimally invasive robotic and open surgical techniques in terms of side effects or survivability (Yeo et al., 2016). Regardless of the procedure utilized, the surgeon's expertise seems to be the most important component in determining a favorable outcome (Yeo et al., 2016).

Based on the likelihood of discovering malignant involvement, a lymph node dissection is conducted (Chalouhy et al., 2019). According to Jansen et al. (2020), it may generally be safely skipped in a subset of patients with low-risk illness (smaller tumors with lower PSA levels and favorable Gleason scores). Uncertainty surrounds the ideal degree of lymph node dissection. The number of positive lymph nodes is expected to increase with a bigger and more thorough lymph node dissection. A more extensive dissection is advised, especially in cases of higher-risk illness, due to the fact that metastases typically travel straight to the common iliac, perirectal, paraaortic, or presacral nodes. Previously, a pelvic lymph node dissection was adequate. Even if certain patients of microscopic lymphatic disease have lived longer, indicating a potential advantage from the treatment, lymph node dissections have not been conclusively shown to increase general longevity (Morizane et al., 2022).

Medical Management of Prostate Cancer

Aggressive prostate cancer and castrate-resistant prostate cancer are often managed medically. Prostate cancer that is considered aggressive often has one of the following characteristics: it is locally progressed, has a higher Gleason score (Gleason 4+5=9 or above), or has a quick PSA doubling period of no more than two years (Yildrim et al., 2021). Radiation therapy, chemotherapy, oral chemotherapeutic medicines, high-intensity focused ultrasound, cryosurgery, hormone therapy, immunotherapy, and radical prostatectomy are some of the possible treatments for aggressive prostate malignancies. Many patients who come with aggressive or advanced, localized cancer can benefit from chemotherapy when started early (Considine et al., 2021; Stopsack et al., 2019). Treatment choices dramatically alter if cancer has spread outside of the prostate. The usual therapies for a condition that has expanded past the prostate and is currently not believed to be cured include hormone therapy, restricted radiation therapy, radiopharmaceuticals, immunotherapy, and chemotherapy (Bauman et al., 2021). For instance, restricted radiation treatment can significantly reduce bone discomfort brought on by a metastatic cancer deposit or manage prostatic bleeding (Chinniah et al., 2022).

According to Michael et al. (2022) most hormone-sensitive malignancies ultimately develop a resistance to hormonal treatment and start to grow again. Castrate-resistant prostate cancer (CRPC) is now the accepted term for the condition, which need further therapy, often chemotherapy (Parent et al., 2022; Moussa et al., 2020). In the US, 106,505 males are believed to have localized (non-metastatic) CRPC. According to Manafi-Farid et al. (2002), 90% of these will eventually spread to the bone and other organs, where they may result in pathological fractures, paralysis, and severe pain.

Hormone therapy

Given that prostate cancer cells depend on testosterone to fuel their growth, hormone therapy is used to prevent the body from manufacturing the male hormone testosterone (Parent et al., 2022). Cancer cells could perish or progress more slowly if the testosterone supply is end. The use of agonists for the gonadotropin-releasing hormone (GnRH) or luteinizing hormone-releasing hormone (LHRH) stops the body from generating testosterone and prevents the cells from getting signals to do so. The testicles quit manufacturing testosterone on this account (Emons et al., 2021; Moussa et al; Wu et al., 2019).

Anti-androgens are drugs that prevent testosterone from entering cancer cells; they are typically administered together with LHRH agonists. This is because it's possible that LHRH agonists may briefly increase testosterone levels before they drop (Baltodano-Calle et al., 2022; Bocher et al., 2022; Students et al., 2020).

Testosterone levels in the body drop fast and considerably after testicular surgery (Aslankoc et al., 2020; Hakemi et al., 2019). Surgery to remove the testicles is permanent and irrevocable, in contrast to available pharmaceutical solutions. In order to reduce the size of the cancer and halt its progress, hormone treatment is frequently used to treat advanced prostate cancer. It is also occasionally used in addition to radiation therapy to treat cancer that has not spread past the prostate (Collins et al., 2022). Radiation therapy works better and the cancer is reduced as a result (Staff et al., 2020).

Another alternative for the medical care of prostate cancer is chemotherapy (Barber et al., 2019). Docetaxel and modified hormonal treatment make up the majority of chemotherapy in the present period (Yang et al., 2022). Based on the dramatically improved survival seen in multiple studies, the early use of docetaxel in hormone-naive patients with high volume or high-grade localised illness seems to be favourable. The conventional first-line chemotherapy drug for CRPC, docetaxel, with average survival benefit of 2 to 3 months. (Kim et al., 2021). Prostate cancer that has migrated to other parts of the body can be handled using chemotherapy (Asogwa et al., 2022). Cancers that do not respond to hormone therapy could possibly be dealt with using chemotherapy.

Prevention of Prostate Cancer

Prostate cancer is the second most common disease in males to be diagnosed across the globe, with Asia and Africa having the greatest fatality rates (Mbugua et al., 2021). According to estimates, if found early by screening, one-third of prostate cancer cases can be avoided and another one-third can be treated. Large population studies have demonstrated enhanced survival advantages in early prostate cancer treatment following screening, Even though there has not been agreement on standards for prostate cancer screening (Schaeffer et al., 2021; Gillessen et al., 2020). Additionally, there is proof that screening and early detection contributed to the recent drop in cancer mortality in a number of nations. Two significant multinational trials to ascertain the value of screening established this fact.

Men from underdeveloped nations have relatively low screening rates, and the majority of cases appear after the disease is very far along (Mbugua et al., 2021). The prevalence of myths and misunderstandings was said to contribute to the inadequate observance of the warning, symptoms, treatments, and screening for prostate cancer. Because early diagnosis of the problem by screening can prevent development of the condition, the degree of prostate cancer screening was appallingly low, which greatly affects preventative practices of prostate cancer (Mbagua et al., 2021).

Numerous differences exist in the guidelines for treating prostate cancer, which continues to be a hotly contested topic around the globe. However, screening remains the most efficient approach for reducing death among men who are deemed to be at risk of PC through early identification (American Cancer Society, 2018). In order to achieve the aim of the cancer control strategy, early detection is a crucial component. Sadly, the rate of screening uptake among men is still generally low and has been connected to the false beliefs people have regarding the causes of prostate cancer (Mbagua et al., 2021; Casell et al., 2019). Prostate Specific Antigen (PSA) levels in a man's blood may often be tested in order to identify prostate cancer in its early stages. The digital rectal examination is an additional method. Most often, early prostate cancer is symptomless. An erection problem, blood in the urine or semen, chest (ribs), difficulty urinating, pain in the hips, back (spine), weakness or numbness in the legs or feet, or even loss of bladder or bowel control due to cancer pressing on the spinal cord are all symptoms of more advanced prostate cancer (Mbagua et al., 2021; Casell et al., 2019).

The majority of research, according to Rwala (2019), are focused to both discovering the mutations referring to the acquired form of prostate cancer as well as the genes implicated in the disease's hereditary form. In order to comprehend the relationship between genetic abnormalities and how the environment contributes to these mutations and/or favoring tumor

growth, a complete investigation of prostate cancer epidemiology and evaluation of risk factors might be helpful (Rwala, 2019). A better knowledge of the causes and risk factors that contribute to prostate cancer will make it possible to recognise at-risk males and will enable the development of efficient screening and preventive techniques (Rwala, 2019).

Conclusion

Prostate cancer, which is also the fifth-leading cause of death worldwide, is the second most common cancer diagnosis among men. Although there is no known cause of prostate cancer, there are some etiological factors that can raise the risk of developing the disease, including advanced age, ethnicity, general and family history, lifestyle and some dietary considerations, exposure to agent orange, and sexually transmitted diseases, among others. According to the severity and potential outcomes of the illness, prostate cancer is divided into four stages utilizing several staging parameters, such as clinical staging, pathological staging, and the most used scoring indication, the Gleason score. Through screening systems, it is possible to identify the problem early, which results in the quick implementation of the right management to avoid complications and improve clinical outcomes. It was shown that Africans had the greatest prostate cancer prevalence, and Nigeria has the highest prostate cancer-related death rate of all the African nations. Poor illness detection and improper condition management are to blame for this. As a result, there are numerous different prostate cancer therapy options available, including active surveillance, chemotherapy, hormone therapy, immunotherapy, procedures, and palliative medical management.

The government should guarantee that the supplies required for the screening process are readily available. Together with other healthcare professionals, nurses should make sure that prostate cancer myths and misconceptions are properly dispelled. Additionally, accurate information on prostate cancer cases and stages should be kept in order to determine the disease's prevalence.

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