Comparative Analysis of the Incidence, Diagnosis and Treatment of Prostate Cancer between China and the United States

Ye Wang^{1‡}, Xuemei Li[‡], and Zongbing You^{1,2,3,4,5,6,7*}

¹Department of Structural & Cellular Biology, Tulane University, New Orleans, Louisiana, USA; ²Southeast Louisiana Veterans Health Care System, New Orleans, Louisiana, USA; ³Department of Orthopaedic Surgery, Tulane University, New Orleans, Louisiana, USA; ⁴Tulane Cancer Center and Louisiana Cancer Research Consortium, Tulane University, New Orleans, Louisiana, USA; ⁵Tulane Center for Stem Cell Research and Regenerative Medicine, Tulane University, New Orleans, Louisiana, USA; ⁶Tulane Center for Aging, Tulane University, New Orleans, Louisiana, USA; ⁷Tulane Center of Excellence in Sex-Based Biology & Medicine, Tulane University, New Orleans, Louisiana, USA; ^{*}**Present Address**: Tangshan Workers' Hospital, Tangshan, Hebei Province 063000, China; ***Correspondence**: zyou@tulane.edu; Tel.: +1-504-988-0467.

ABSTRACT

In the context of globalization and an aging population, prostate cancer has emerged as a significant threat to male health, with its incidence and mortality rates on the rise worldwide. Particularly in comparison between China and the United States, two representative countries, there are notable differences in the incidence, diagnosis, and treatment of prostate cancer due to variations in medical resource allocation, diagnostic techniques, lifestyles, and cultural perceptions. This article aims to compare and analyze the status of prostate cancer in China and the U.S., explore the key factors influencing these differences, and provide references for the development of prostate cancer prevention and control strategies in China. We employ multi-dimensional data collection and analysis approaches including literature review and case-control studies. We focus on the epidemiological data, clinical practice guidelines, patient quality of life, and medical economic burden to comprehensively dissect the differences and their causes in prostate cancer management between China and the U.S. Our findings highlight the disparities between the two countries in the aspects of early screening, treatment preference, and long-term follow-up mechanisms, aiming to uncover the underlying reasons behind these differences and to propose corresponding improvement suggestions. Conclusions drawn from our analyses indicate that the U.S. is relatively advanced in early diagnosis and personalized treatment of prostate cancer, benefiting from a more comprehensive healthcare system and advanced medical technologies. Although China has made a significant progress in recent years, it still faces many challenges due to the uneven distribution of medical resources, and there is space for improvement in public health awareness. The significance of our analysis lies in providing empirical evidence for formulating more scientifically sound and reasonable strategies for the prevention and control of prostate cancer in China, which will help promote further development and improvement in this field.

1. Background

Prostate cancer, as one of the major threats to men's health worldwide, has seen a continuously rising incidence. Especially in the two countries, the United States and China, the incidence rates of prostate cancer present different characteristics and trends due to population aging, changes in lifestyle, and differences in medical standards ^[1-2]. This article aims to explore the potential factors influencing these differences and provide directions for future research by comparatively analyzing the current situation and differences between China and the United States in terms of the incidence, diagnosis and treatment of prostate cancer.

In the United States, prostate cancer is one of the most common non-skin cancers among men, and its high incidence rate is partly attributed to Western dietary habits, genetic background, and a relatively high average life expectancy. In contrast, although the overall incidence rate in China is relatively low, with the rapid economic development and the Westernization of lifestyle in recent years, the incidence of prostate cancer has shown an upward trend ^[3-4]. Moreover, the

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Qianben Wang

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Jianpeng Yu, David Zhang

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Figure 1. Comparison of prostate cancer incidence rates between China and the U.S. The sources of the data are from the American National Cancer Institute and the Chinese Prostate Cancer Expert Consensus.

uneven distribution of medical resources in China also poses challenges to the early detection and treatment of the disease. Figure 1 shows that the incidence rate of prostate cancer in China is remarkably lower than that in the United States but has been increasing year by year. In contrast, the incidence rate of prostate cancer in the United States initially decreased gradually to reach the lowest point of 105 per 100,000 in 2013 but has since shown a yearly increasing trend.

In terms of diagnosis, relying on advanced medical technologies and extensive screening programs, such as the prostate-specific antigen (PSA) blood test and digital rectal examination (DRE), the United States is able to identify prostate cancer cases at an earlier stage. In China, although medical institutions in big cities already have the corresponding diagnostic capabilities, in the vast rural areas many patients are already in the advanced stage when diagnosed due to the lack of sufficient medical facilities and professional doctors ^[5]. For example, prostate cancer patients in China are often diagnosed due to urinary symptoms (such as frequent urination or urgency), bone pain (a symptom of bone metastasis), or other reasons (such as incidental findings or general discomfort). This results in a significant proportion of patients being diagnosed at an advanced stage, losing the opportunity for curative surgery. In contrast, prostate cancer patients in the United States are typically diagnosed through asymptomatic routine

Category	China	USA
PSA Screening Coverage	Relatively low, gradually becoming common in urban areas; rare in rural areas.	High, part of routine check-ups, especially for men over 50 and high-risk groups.
Health Awareness	Relatively low; many patients seek medical at- tention only when symptomatic or at advanced stages.	High; early screening is common, with a signifi- cant proportion under active surveillance.
MRI Utilization	Mainly used in large hospitals in major cities for high-risk cases and biopsy guidance; less accessible due to the costs.	Widely used; multi-parametric MRI (mpMRI) is a standard technique for pre-biopsy assessment.
Biopsy Techniques	Relatively outdated in some regions; delays in biopsy are common.	MRI-guided precision biopsy is widely adopted, ensuring high diagnostic accuracy.
Genetic Testing	Still in the exploratory stage, primarily used in top-tier hospitals or for research.	Personalized medicine is well-established; genetic testing and novel biomarkers are widely applied.
Proportion of Late-Stage Cases	High; many patients are diagnosed at advanced stages with bone metastasis or significant symptoms.	Low; most cases are diagnosed at early or localized stages through screening.

Table 1. A list of the diagnostic tools used in China and the US.

check-ups with elevated PSA levels. Table 1 lists the differences in using diagnostical tools between China and the U.S. From PSA screening and the use of multi-parametric MRI to biopsy techniques and genetic testing, there is still considerable room for improvement in China compared to the United States.

There are also obvious differences in the treatments between the two countries. Treatment regimens in the United States are usually more personalized and diversified, including surgery, radiotherapy, hormonal therapy, as well as emerging targeted therapy and immunotherapy ^[6]. The choice of these treatment methods is often based on specific conditions of patients, such as age, health status, and cancer stage. In China, traditional surgical operations and chemotherapy are still the main treatment means, but in recent years, some new treatment technologies have also begun to be introduced and gradually promoted to major medical institutions ^[7]. Table 2 lists the treatment modalities used in China and the U.S.

In conclusion, there are significant differences between China and the United States in terms of the incidence, diagnosis, and treatment of prostate cancer. These differences not only reflect the differences in the medical health systems and technological levels of the two countries but also remind us that we need to further study and explore prevention strategies and management models that are suitable for specific national conditions. Through the comparative analysis of the experiences of the two countries, we can better understand the development patterns of prostate cancer and provide a scientific basis for improving the prevention and control effects of prostate cancer in China ^[9].

2. Current Research Status in China

In China, the incidence of prostate cancer has shown a significant upward trend in recent years, which is consistent with the global trend. In 2022, China had about 134,156 new cases, with an age-standardized rate (ASR) of 9.7 per 100,000 men. However, compared with developed countries, prostate cancer patients in China are often at a more advanced stage when diagnosed, mainly due to the insufficiency of early screening and diagnosis ^[10]. This phenomenon is particularly evident in the western regions of China, partly because of the uneven distribution of medical resources and the lack of public awareness of prostate cancer. China established guidelines for prostate cancer screening and early treatment in 2022 ^[11]. The main points for prostate cancer screening are as follows: first, the population at high risk of prostate cancer is classified as 1) age 40 years with BRCA2 gene mutation; 2) age 45 years with family history of prostate cancer; 3) age 60 years. According to our 2022 guidelines, men whose life expectancy is more than 10 years and who meet one of the above conditions are identified as the high-risk population, as the target population for prostate cancer screening. Second, the screening frequency is recommended for

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	China	USA	
Radical Surgery			
Yes	47%	70.3%	
No	53%	29.7%	
Chemotherapy/Radiotherapy			
Yes	68.2%	68.9%	
No	31.8%	31.1%	
Neoadjuvant			
Yes	9.1%	20.3%	
No	90.9%	79.7%	
Adjuvant			
Yes	68.2%	56.8%	
No	31.8%	43.2%	

Table 2. Prostate cancer therapies used in China and the U.S.

Note: the sources of the data are from previous studies^[8].



Figure 2. The proportion of various surgical methods used in China and the U.S. The sources of the data are from the previously published studies ^[18].

men with a life expectancy over 10 years to have a PSA test once every 2 years. Third, men aged ≥ 60 years with PSA test level <1.0 ng/mL and those with life expectancy <10 years, or men aged 75 years may choose whether to stop screening based on their personal health status. Fourth, PSA is the preferred means of prostate cancer screening with serum PSA 4.0 ng/mL as the critical level. Positron emission tomography-computed tomography scan (PET/CT), ultrasound, MRI, or digital rectal examination (DRE) alone for prostate cancer screening is not recommended. DRE as an auxiliary test in the initial positive PSA test is recommended.

2.1 From the aspect of diagnosis, urologists in China are gradually adopting more advanced imaging techniques and biomarker detection methods, such as PSA testing, multi-parametric magnetic resonance imaging (mpMRI) and prostate-specific membrane antigen (PSMA) PET-CT. PSMA PET-CT has a good sensitivity and specificity for prostate cancer diagnosis. Compared with the traditional imaging examination, PSMA PET-CT has a higher detection rate. In addition, PSMA PET-CT offers obvious advantages in accurate staging at the initial diagnosis of prostate cancer, risk stratification, and diagnosis of recurrence. The combination of PSMA PET-CT with MRI contributes to more accurate tumor localization and tumor staging. Especially in patients with low PSA levels, the detection rate by PSMA PET-CT is higher. Nevertheless, due to the limitations of medical equipment and the shortage of professionals in the western regions, popularization and application of these advanced technologies still face challenges. In

addition, the proportion of metastatic castration-resistant prostate cancer (M1-CRPC) is relatively high in the western regions, which further increases the complexity and difficulty of treatment ^[12-13]. In China, there is also an issue with diagnostic errors in MRI, which necessitates further prostate biopsies to obtain pathology for a definitive diagnosis. If MRI provides a very clear diagnosis of prostate cancer, radical prostatectomy can be performed directly after thorough communication with the patient and their family and ruling out surgical contraindications. If plain and contrast-enhanced MRIs only suggest the possibility of prostate cancer, PSMA PET-CT may be considered to further improve the diagnostic accuracy of prostate cancer. Of course, in most cases in China, prostate cancer is definitively diagnosed through prostate biopsies. Over the past decade, there has been a transition from transrectal prostate biopsies to transperineal prostate biopsies for pathology sampling, which is now more comparable to the practice in the United States.

2.2 In terms of treatment strategies, urologists in China are actively exploring and applying the latest international treatment guidelines and drugs. For example, with the successive marketing of six CRPC treatment drugs in the United States, these drugs have also been gradually introduced into clinical practice in China. However, the choice of drugs and the formulation of sequential treatment regimens remain complex issues that require comprehensive consideration of individual differences among patients, the efficacy and side effects of drugs, and the patients' economic affordability ^[14-16]. In western China, due to the generally poor economic conditions of patients, drug accessibility and patient compliance have become important considerations in the treatment process.

Moreover, the methods for predicting efficacy indicators and evaluating drug efficacy are also constantly developing. In China, researchers are committed to developing prediction models and evaluation tools suitable for local patients to improve the precision and effectiveness of treatment ^[17]. However, these studies are still in the initial stage and require more clinical data and long-term follow-up to verify their reliability and practicability.

It has been reported that among prostate cancer radical surgeries performed in China, laparoscopic radical prostatectomy (LRP) accounts for the largest proportion, reaching 53%, while open surgery is the least common (Figure 2). With the adoption of robotic systems, the proportion of robot-assisted radical prostatectomy (RARP) is expected to further increase.

Overall, prostate cancer research and treatment in China are in a stage of rapid development but still face many challenges. By strengthening early screening, improving the diagnostic level, optimizing treatment strategies, and enhancing economic support for patients, urologists in China are expected to provide more comprehensive and effective medical services for prostate cancer patients in the future. In this process, international cooperation and experience sharing will play an important role in helping China make greater progress in the field of prostate cancer prevention and treatment ^[19-20].

3. Current Research Status in the United States

In the United States, the incidence, diagnosis, and treatment of prostate cancer show significant regional and temporal differences. Prostate cancer is the most common non-skin cancer among men, and its incidence has experienced significant fluctuations over the past few decades. In the early 1990s, due to the widespread use of PSA screening, the diagnosis rate of prostate cancer rose sharply ^[21]. In 2022, the United States reported approximately 230,125 new cases, resulting in an age-standardized rate (ASR) of 75.2 per 100,000 men. In 2024, the American Cancer Society estimates that there are 299,010 new cases and 35,250 deaths caused by prostate cancer in the U.S. However, as time went by, problems of overdiagnosis and overtreatment have gradually emerged, leading to the re-evaluation and restricted use of PSA screening. Nevertheless, the early diagnosis and

treatment of prostate cancer in the United States still remain at the world's leading level ^[22].

3.1 From the perspective of diagnosis, the medical system in the United States emphasizes the combined use of multimodal imaging and molecular markers. Besides the traditional PSA test, magnetic resonance imaging (MRI) and multi-parametric MRI (mpMRI) are playing an increasingly important role in the diagnosis of prostate cancer. The application of these techniques not only improves the accuracy of diagnosis but also helps to determine the boundaries and stages of tumors more precisely, thus guiding more personalized treatment regimens ^[23]. In addition, emerging technologies such as genetic testing and liquid biopsy are also gradually entering clinical practice, providing new tools for the early detection and prognosis evaluation of prostate cancer.

3.2 In terms of treatment, the medical system in the United States offers diverse options, ranging from surgery, radiotherapy, to drug treatment, and each method has its specific indications and advantages. For early-stage prostate cancer, radical prostatectomy and external beam radiotherapy are common treatment choices. For intermediate or advanced-stage and metastatic prostate cancer, androgen deprivation therapy (ADT) and chemotherapy are the standard treatment regimens ^[23-25]. In recent years, with the marketing of new endocrine therapy drugs (such as abiraterone and enzalutamide), the treatment effect of CRPC has been significantly improved. These drugs not only prolong the survival period of patients but also improve their quality of life.

Due to the widespread adoption of robotics in the United States, 87.7% of prostate cancer patients undergo the RARP procedure, while only 1.9% opt for the LRP method (Figure 2). Although the medical technology and treatment methods in the United States are at the world's forefront, the treatment of prostate cancer still faces many challenges. The distribution of medical resources for prostate cancer in the United States is uneven. For example, the eastern regions (such as medical hubs like Boston and New York) are home to top-tier cancer treatment centers, such as Massachusetts General Hospital and Memorial Sloan Kettering Cancer Center. Treatments in these areas often emphasize precision medicine and multidisciplinary team (MDT) approaches, utilizing advanced technologies like the Da Vinci robotic-assisted prostatectomy or cutting-edge proton therapy. Patients in these regions have greater opportunities to participate in clinical trials and access new therapies, such as immunotherapy or gene therapy. In contrast, in rural or remote areas, such as the Appalachian Mountains or parts of the Midwest, patients face limited medical resources, with a shortage of specialized urologists and oncologists. Treatment options in these regions are primarily traditional, such as conventional radiation therapy and medication. Access to robotic surgery and advanced radiation therapies is often limited, leading patients to prefer simpler and more cost-effective treatments like hormonal therapy, such as androgen deprivation therapy (ADT).

Overall, the United States has accumulated rich experience and advanced technologies in the incidence, diagnosis, and treatment of prostate cancer, but continuous exploration and optimization are still needed to cope with this health challenge^[26]. Through international cooperation and knowledge sharing, the development of prostate cancer research and clinical practice can be further promoted, and more effective and personalized treatment regimens can be provided for patients^[27].

4. Trends of Development

When exploring the trends of the incidence, diagnosis and treatment of prostate cancer in China and the United States, it is not difficult to find that there are significant differences as well as commonalities in the progress of the two countries in this field. As a frontier in the research and treatment of prostate cancer, the United States' development trends are more reflected in the rapid iteration of technological innovation and drug research and development. In recent years, the United States has achieved breakthroughs in early diagnosis techniques for prostate cancer. For example, the optimization of mpMRI and PSA testing has significantly increased the detection rate of early-stage prostate cancer [28-30]. In addition, with the marketing of new drugs such as poly(ADP-ribose) polymerase (PARP) inhibitors and immune checkpoint inhibitors, the treatment options for CRPC in the United States have become more diversified, and the survival period and quality of life of patients have been significantly improved.

In contrast, China's progress in the field of prostate cancer is more reflected in the popularization of clinical practice and the narrowing of regional differences. Although there is still a gap between China and the United States in basic research on prostate cancer and drug innovation, in recent years, with the increasing attention and investment in the medical and health undertakings, China has witnessed a significant improvement in the diagnosis and treatment of prostate cancer. Especially in the western regions, through the promotion of expert consensus and regional conferences, such as the convening of the Expert Conference on Castration-Resistant Prostate Cancer in Western China in 2016, urologists in the western regions have received more guidance and support in the management and treatment of CRPC ^[31]. Moreover, the Chinese government is also actively promoting the balanced distribution of medical resources and striving to narrow the gap in medical levels between the eastern and western regions, so that more prostate cancer patients can enjoy high-quality medical services.

However, there are also some commonalities in the development trends of prostate cancer treatment in China and the United States. Firstly, both countries are actively exploring the path of personalized treatment. With the progress of genetic testing technology, more and more prostate cancer patients can choose the most suitable treatment plan according to their genetic characteristics, thus improving the effectiveness of treatment and reducing side effects. Secondly, both countries are strengthening multidisciplinary collaborations. Through the close cooperation of multidisciplinary teams such as urology, oncology and radiology, more comprehensive and precise treatment plans can be provided for prostate cancer patients [32]. In addition, with the development of telemedicine technology, both China and the United States are attempting to provide remote consultation and treatment guidance for prostate cancer patients in remote areas through Internet platforms, thus breaking geographical limitations and improving the accessibility of medical services ^[33].

In conclusion, the development trends of the incidence, diagnosis and treatment of prostate cancer in China and the United States reflect their respective advantages and characteristics as well as the common challenges and opportunities in this field ^[34]. In the future, with the progress of science and technology and the deepening of international cooperation, we have reasons to believe that the treatment of prostate cancer will develop in a more personalized, precise and globalized direction, bringing more hope and good news to patients ^[35].

5. Possible Problems

When discussing the comparative analysis of the incidence, diagnosis and treatment of prostate cancer in China and the United States, we will inevitably encounter a series of possible problems. These problems involve not only differences in medical technologies but also the intertwined influences of cultural, economic and social factors.

5.1 There are remarkable differences in the incidence of prostate cancer between the two countries. The incidence of prostate cancer in the United States has remained high for a long time, while in China it has shown an upward trend in recent years. Such differences may be related to dietary habits, lifestyles and genetic factors. For example, high-fat diets and lack of exercise are quite common in the United States, and these factors are believed to be associated with an increased risk of prostate cancer [36]. In contrast, China's traditional dietary structure and lifestyle have been influenced by Westernization in recent years, leading to an increase in the incidence. This shift in culture and lifestyle means that different measures need to be taken in the prevention and early intervention strategies for prostate cancer in the two countries.

5.2 There are also significant differences in the application and popularization of diagnostic techniques between the two countries. The United States has advanced imaging techniques and molecular biology detection methods for the early diagnosis of prostate cancer, such as PSA testing and mpMRI ^[37]. The wide application of these techniques has led to a relatively high early diagnosis rate in the United States, thereby improving the success rate of treatment. However, in China, although PSA testing has gradually become popular, the application of high-end technologies like mpMRI is still relatively limited, especially in primary medical institutions. This technological gap may result in a lower early diagnosis rate in China, which in turn affects patients' prognosis ^[38].

5.3 In terms of treatment, the differences between the two countries are equally obvious. The United States has diverse options for the treatment of prostate cancer, including surgery, radiotherapy, endocrine therapy and emerging immunotherapy. The diversity of these treatment methods provides personalized treatment plans for patients, but it also brings confusion in choice. For example, for patients with CRPC, how to choose the best treatment drugs and sequential treatment regimens has become a complex issue ^[39]. In contrast, treatment options in China are relatively limited. Especially in the western regions, the lack of medical resources and technologies makes it difficult for patients to obtain the best treatment. Moreover, economic factors also limit many patients' ability to receive advanced treatment, resulting in unequal treatment effects.

5.4 In addition, there are also differences between the two countries in the long-term management and follow-up of prostate cancer. The medical system in the United States emphasizes the long-term management of patients, including regular follow-up and lifestyle interventions, to delay the progression of the disease and improve the quality of life ^[40]. In China, especially in the western regions, due to insufficient medical resources and limitations on patients' economic conditions, many patients lack effective follow-up and management after treatment, resulting in the recurrence and progression of the disease ^[41].

In conclusion, there are many differences between China and the United States in the incidence, diagnosis and treatment of prostate cancer. These differences not only reflect the gap in medical technologies but also reveal the complex influences of cultural, economic and social factors. To improve the prognosis of prostate cancer patients, the two countries need to conduct more in-depth cooperation and discussions in terms of technological exchanges, resource allocation and policy formulation.

6. Proposed Solutions

We have revealed many differences in the incidence, diagnosis and treatment of prostate cancer in China and the United States. To bridge these gaps, it is particularly important to put forward practical solutions. This article aims to propose a series of proposed solutions for the management of prostate cancer in China and the United States through in-depth analysis, hoping to provide references for future research and practice.

6.1 Firstly, from the perspective of the incidence rate, the incidence of prostate cancer in the United States is significantly higher than that in China. This difference may be related to multiple factors such as genetics, environment, and lifestyle ^[42]. Therefore, China should strengthen the screening and early diagnosis of high-risk groups, especially in economically developed areas and areas with a rapid

urbanization process. By promoting early screening methods such as PSA testing, the early diagnosis rate of prostate cancer can be effectively improved, thereby improving the prognosis of patients.

6.2 Secondly, in terms of diagnosis, the medical system in the United States is relatively complete, with advanced imaging techniques and molecular biology detection methods, which can provide patients with more accurate diagnoses. In contrast, the distribution of medical resources in China is uneven, especially in the western regions where the medical level is relatively low. To this end, China should increase investment in primary medical institutions in the western regions and improve their diagnostic capabilities ^[43-44]. Meanwhile, through means such as telemedicine and expert consultations, the gap in medical resources among different regions can be effectively filled to ensure that patients can obtain timely and accurate diagnoses.

6.3 In terms of treatment, the United States has made significant progress in the treatment of CRPC, and a variety of new drugs have been successively launched, providing patients with more treatment options. However, the high cost of these drugs makes it difficult for many patients to afford them. China should intensify efforts in drug research and development and introduction, strive to achieve the localization of these new drugs as soon as possible, and reduce the cost of treatment ^[45]. In addition, through the adjustment and optimization of medical insurance policies, the economic burden on patients can be further reduced and the accessibility of drugs can be improved.

6.4 Moreover, there are also differences between China and the United States in the management of prostate cancer patients. The patient management system in the United States is relatively complete, focusing on multidisciplinary collaboration and individualized treatment. China still needs to strengthen in this aspect. By establishing multidisciplinary collaboration teams (MDT) and integrating the expert resources of multiple disciplines such as urology, on-cology, radiology, and pathology, more comprehensive and personalized treatment plans can be provided for patients ^[46-47]. Meanwhile, strengthening the training and education of medical staff and improving their understanding and management ability of

CRPC are also the keys to improving the treatment effect.

6.5 Finally, patient education and psychological support are equally important in the management of prostate cancer. The United States has rich experience and a mature system in this regard ^[48]. Through various forms such as patient education manuals, support groups, and psychological counseling, it helps patients better cope with the disease. China should learn from these experiences, strengthen the education of patients and their families, improve their awareness and self-management ability of the disease ^[49]. Meanwhile, by establishing a psychological support system, it can help patients relieve psychological pressure and enhance their confidence in treatment.

In conclusion, through efforts in multiple aspects such as strengthening early screening, improving diagnostic capabilities, reducing treatment costs, perfecting patient management, and strengthening patient education, China can gradually narrow the gap with the United States in the management of prostate cancer and provide patients with higher-quality and more comprehensive medical services ^[50].

7. Summary

With the comparative analysis of the incidence, diagnosis and treatment of prostate cancer in China and the United States, we find significant differences and commonalities between the two countries in this field. Firstly, from the perspective of the incidence rate, the incidence of prostate cancer in the United States is significantly higher than that in China, which may be related to factors such as a higher degree of population aging, a higher screening penetration rate, and lifestyle in the United States ^[51]. However, the incidence of prostate cancer in China has shown an upward trend in recent years, especially in urban areas, which is closely related to the Westernization of lifestyle, changes in environmental factors, and the acceleration of the population aging process.

In terms of diagnosis, the United States is in a leading position in the early screening and diagnostic techniques for prostate cancer. The widespread use of PSA testing has enabled many prostate cancer cases to be detected at an early stage, thus improving the success rate of treatment and the survival rate of patients. In contrast, although China has also been promoting PSA testing in recent years, due to the uneven distribution of medical resources, the public's insufficient awareness of prostate cancer and weak screening awareness, many cases are often diagnosed at an advanced stage, which undoubtedly increases the difficulty of treatment and the risk of patient death.

In terms of treatment, the United States has more diversified and advanced treatment methods for prostate cancer. Besides traditional surgical treatment and radiotherapy, the United States also widely applies a variety of new drugs and targeted treatment methods, such as hormonal therapy, chemotherapy, immunotherapy, etc. The diversity of these treatment methods provides personalized treatment plans for patients with different conditions. In China, although certain progress has been made in the field of prostate cancer treatment in recent years, surgery and radiotherapy are still the main treatment methods on the whole, and the application of new drugs and targeted treatment is relatively limited, which is mainly restricted by drug accessibility, the distribution of medical resources, and the progress of clinical research [52-53].

Moreover, there are also significant differences in the socio-economic factors in the treatment of prostate cancer between the two countries. In the United States, due to the relatively complete medical insurance system, patients face relatively less financial pressure when receiving treatment, which helps patients to accept treatment more actively. In China, although the government has increased its investment in medical insurance in recent years, due to the high medical costs, many patients still face relatively large economic pressure when facing prostate cancer treatment, which affects the timeliness and effectiveness of treatment to a certain extent.

In conclusion, there are remarkable differences between China and the United States in the incidence, diagnosis and treatment of prostate cancer. These differences not only reflect the differences in medical technology, the distribution of medical resources, and socio-economic conditions between the two countries, but also provide us with valuable lessons. Through in-depth comparative analysis, we can better understand the reasons behind these differences, thus providing more scientific and effective guidance for the future prevention and treatment of prostate cancer.

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