THEIR CANCER GARDEN

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**Directors: Professor Jordi Estapé and Doctor Tania Estapé.**

## EDITORIAL

According to US data, as a result of the pandemic, cancer screening programs have slowed down , especially in colon and breast cancer, which suggests a worse future for the prognosis of these diseases.

At the same time, the controversy over screening in prostate cancer is reopened , given the limitations of PSA, both by excess and by default. But some studies point to an increase in advanced and/or metastatic cases that they attribute to less screening.

We will analyze this data for future issues of this journal.

Some kind patients have asked us for information about nuclear resonance

cases, between three countries. They seem few, but already in the previous issue of Cancer of them, we collected the main problems that Western researchers of this cancer encounter.

Being the scarcity of cases to nourish clinical trials perhaps the most important obstacle (do not misinterpret this statement: magnificent that there are few cases), but situation that implies less progress, which is acquired through these trials, which require many patients for objective statistical evaluations, key to the progress of cancer treatment.

 Professor Biete explains, in an excellent way, the controversy, ancient and unresolved, between prostatectomy and radical radiotherapy, in localized prostate cancer.

multiparametric in prostate cancer , which

Finally , we have an important stake **.**

we offer below .

We draw attention to the application of active surveillance in testicular cancer and we collect another initiative in penile cancer, another international initiative that has already collected 200 contributions. One, in prostate cancer, on

possible inequalities in the attention to the

patients with this diagnosis, depending on whether it is

its geographical location. The second, in so far as

 psychological support for adolescents with cancer

of testicle.

##  MULTIPARAMETRIC NUCLEAR RESONANCE

Parametric nuclear resonance (MRI) is the most effective imaging technique, since it makes it possible to obtain images with greater precision of the prostate than those obtained so far. MRI provides detailed images of the prostate and surrounding tissues. It has become a key exploration in the diagnosis and treatment choice of CP. It allows to study the prostate in a total way.

It is not a painful test. Its duration is around 30-40 minutes.

* If the test is negative, it is almost certain that the patient does not have CP, which prevents many biopsies. If suspicious alterations are observed, biopsy will be recommended .

\*During the biopsy this scan helps a lot to identify the areas of the prostate, most likely to be affected. This is a great advance, since it avoids blind punctures, which greatly increases the effectiveness of the biopsy.

* If a CP is detected, the MRI is very useful to help establish the TNM or extension of the tumor, that is, if it has spread beyond the prostate or not. Thus, the involvement of the seminal vesicles and structures adjacent to the prostate can be ruled out or confirmed.

\* Currently, MRI is also fundamental in the choice of patients for active surveillance (see below), to be a candidate for which strictly localized cases are necessary.

\*A step forward in the effectiveness of MRI has been taken by a new technique, image fusion biopsy, which, through super-specialized computerized programs, allows the joint use of TRUS (described above) and MRI. This further increases the identification of suspicious areas.

The results of the MRI are classified into five possibilities, using the PI-RADS (Prostate Imaging Reporting and Data) system:

PI-RADS1. Very low risk, the presence of clinically significant CP is very unlikely.

PI-RADS 2. Low: Improbable

PI-RADS 3: Intermediary: Equivocal. PI-RADS 4: High: Probable

PI-RADS 5: Very high: Very likely.

PI-RADS 1 and 2, represent the improbability of CP; 3 rules out CP, but greater vigilance is recommended because there are somewhat dubious image data, while 4 and 5 suggest the opposite, the high probability of its presence and the need for biopsy to confirm it. or discard it.

##  TESTICULAR CANCER: RISK FACTORS

There is general agreement that there are three fundamental factors that increase the risk of developing testicular cancer (CT). They are as follows:

### CRYPTORCHIDISM

It is the most documented causal factor of TC. During gestation, the testicles are located in the abdomen of the fetus. Towards the 7th month they descend and are placed in the scrotal pouch. If they don't we have a case of cryptorchidism that can be unilateral or bilateral.

Already in 1973, F.K. Mostofi (author together with Isabell A. Sesterhenn from Histological typing of testis cancer), observed an incidence of cryptorchidism of 3.4% in 2000 CT patients . In contrast, only 0.25% of patients in a control group without CT suffered from it. A person with cryptorchidism is 14 times more likely to have CT than a person without it.

###  FAMILY HISTORY

Given the low frequency of CT, it is also rare, from a global point of view, the detection of family cases. If a person has a sibling with CT, he has between 8 and twelve times more the possibility of developing it than the population without this background; if the affected was the father, the comparative risk is between two and four times more.

In these family cases, the TC is very heritable, passing from generation to generation. But still has not been detected genetic change determinant of the familial CT.

### CARCINOMA OF THE TESTICLE IN SITU

In many and diverse cancers it is common, either in a diagnostic examination or accompanying a cancer, to find one or more carcinomas in situ. We define this entity as a grouping of abnormal cells that, at the time of diagnosis, have not spread or metastasized, but with the potential to acquire cancerous characteristics, which This clinical situation is also known as stage O. Taking advantage of the occasion, let us remember the great scientist, Georgios Papanicolaou, who invented the test that bears his surname, which has saved millions of lives and represents the greatest advance oncological of all times, early diagnosis.

Nor do we forget his brilliant wife, Andromachi Mayrogeni Papanicolaou, who accompanied him on his American adventure. Known in the USA as Mary, she collaborated in the laboratory with her husband. He became a kind of guinea pig, offering his cervix for the repeated smears (extension of a sample of a fluid from our body on a glass lamella for study under the microscope) that helped create the test.

Well, between 80% and 90% of TCs is an alteration known as carcinoma in situ germ cell or GCNIS, so it is considered that GCNIS, is currently the largest known risk factor for developing CT.

On the other hand, neither smoking nor cycling nor obesity nor height have been shown to be risk factors for CT.

## ADVANCES IN PENILE CANCER

The low frequency of penile cancer (PSC) means that it is difficult for doctors to have enough experience in its diagnosis and treatment. As we said in the previous issue, it is essential to gather diverse experiences to achieve progress. On the other hand, patients, embarrassed by their disease, delay going to the diagnosis. Much remains to be done in CPE.

We collect some of the words about it in Urologic Times from Dr. Curtis A. Pettaway, from the Department of Urology at Anderson Cancer Center, Houston, Texas and co-ordinator of InPACT, the International Penile Advanced Cancer, which includes patients from the USA, Canada and UK.

We have chosen your feedback about treatment modalities in relation to the quality of life of these patients.

The main thing is still early diagnosis, which requires that in the event of a penile injury you should go to your doctor as soon as possible, without being ashamed of something that, in its deepest sense, is not anyone's fault. And the smaller the tumor, the more likely it is to avoid aggressive treatments.

The detection of the inguinal sentinel node is also applied in CPE, when its study is necessary. The sentinel node avoids many more aggressive surgeries.

According to Pettaway, in recent years there have been advances in surgery and radiation therapy. A very important example in localized cases of CPE, in which surgery with an attempt to preserve the affected organ is much more frequent. Minimally invasive surgical techniques , such as laparoscopy and robotics, have a very important place in the non-aggressive treatment.

It is accepted that with them the tumor can be controlled and that it is not necessary to leave a negative surgical margin as wide as before, which increases the chances of preserving the penis. For this, the collaboration of the plastic surgeon is essential, with which more aesthetic results are obtained.

 As for radiotherapy, one choice is interstitial brachytherapy, with which the penis is preserved and its amputation is avoided.

Precisely the InPACT group, which Pettaway coordinates, also studies which should therapeutic strategies in advanced CPE.

In localized cases, InPACT studies, 1) The possibilities of surgery as the only treatment in localized cases; 2) If the combination of chemotherapy or chemo-radiotherapy with surgery can improve the results and 3) Cuál of these last treatments produces better results with fewer adverse effects. InPACT is an international group that has already collected 200 patients.

## WILL IT IMPROVE THE EARLY DIAGNOSIS OF PROSTATE CANCER?

One of the biggest current controversies in prostate cancer (CP), is the usefulness of screening campaigns, so we try to improve them. So far these campaigns have been based on the determination of the PSA. But this one alone does not work, because the proportion of false positives it produces disables it. Or it even leads to the discovery of non-aggressive TKs that many of them are not supposed to have even developed.

 For some years now, the role of human kallikrein (Hk2) in the early diagnosis of CT has been evaluated. hK2 is another glycoprotein that, like PSA, belongs to the family of human kallikreins and shares up to 80% of structural homology with it. Unlike PSA, its expression is greater in cancerous tissue than in benign tissue.

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 Professor Wald (UCL Institute of Healtj Informatics, Queen Mary University, London) and collaborators recently publish in the Journal of Medical Screening an important contribution to better diagnosis early prostate cancer , using an algorithm based on age and two CT markers, PSA and hK2 (human peptidase kallikrein).

And they note that with their method they can reduce the number of false positives by 75% compared to using PSA alone, but maintaining the same proportion in the diagnosis of prostate cancers. This can allow the development of a safer and more accurate screening in prostate cancer, thus reducing the excessive diagnoses and treatments that follow the use in PSA screening alone.

### PROSTATE CANCER : RADIOTHERAPY OR SURGERY, THE ETERNAL DILEMMA

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For years it has been debated which therapeutic option is best for the curative treatment of prostate cancer: surgery or radiotherapy. We must bear in mind that, apart from the prostate tumor, there are many other factors to consider and that can condition the therapeutic proposal. Examples of them are age, obesity and associated pathology: diabetes, hypertension, cardiovascular diseases, etc.

Surgery for prostate cancer is called radical prostatectomy and can be performed by laparotomy (classic abdominal incision ) or laparoscopy (less invasive and more modern technique). In the latter you can intervene through the use of a robot. This type of operation has nothing to do with the resection of benign prostate adenomas, which is much simpler.

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In cases of high risk or if there is suspicion of metastatic involvement of neighboring lymph nodes, prostatectomy may be associated with a lymphadenectomy usually of the obturator nodes.

Radiation therapy can be done with two different techniques. One is brachytherapy with radioactive iodine seeds , which are implanted in the prostate by anesthesia and ultrasound control. They are permanent implants that give a high dose of radiation, but very limited to the prostate. The other technique is external radiotherapy using a linear accelerator. The radiation beam, modulated to be directed only to the prostate with a margin of safety, delivers a daily dose up to the total estimated to guarantee the destruction of the tumor. 3D simulation and IMRT (Dose Modulated Intensity) or SBRT (Stereotactic Radiotherapy) techniques allow the administration of high doses in a hypofractionated way with an intense effect antitumor. Classic long-lasting treatments, 38 fractions in a month and a half, for example, have been cut in half.

 Surgery and radiation therapy have advantages and disadvantages. Prostatectomy removes the entire gland that contains the tumor. The risk is that most are peripherally located and obtaining free margins can be difficult. Due to this or being an aggressive tumor, with PSA (Prostate Specific Antigen ) greater than 10 or Gleason index greater than 6, radical surgery is discouraged due to the high risk of being left microscopic tumor remains that will cause recurrence. In fact, this situation is not uncommon, with PSA levels that increase progressively and force the performance of rescue radiotherapy. The latter has, of course, more risk of side effects than in a situation with an intact prostate.

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Two complications can have radical surgery: one, rare in expert hands, is urinary incontinence. The second, much more frequent, is impotence.

If you want to preserve the bandeletas with the erector nerves there is a risk of increasing the number of cancer recurrences. However, if it is well indicated and there are no signs of aggressiveness or involvement of the capsule, the results of radical prostatectomy are good and very satisfactory from an oncological point of view.

Interstitial radiotherapy with iodine seeds or temporary implantation of iridium needles is reserved as an alternative to surgery in initial cases and with a good prognosis. Fractional external radiotherapy, much more common, is performed either as a rescue in biochemical recurrences (increasing PSA) after surgery or as an exclusive treatment. The main side effect can be rectal inflammation and bleeding, rectitis, fortunately nowadays rare with modern technology. In cases of persistence of tumor activity after uncontrollable radiotherapy by hormone blockade treatment, surgical rescue may be attempted.

\*\*Numerous comparative studies have been conducted between surgery and radiotherapy. The results in relation to local control are discreetly superior to those of the former, although survival is similar. But if the characteristics of the patients are examined in detail, it is noticed that in most of the published series there is a bias, a negative selection. in the radiotherapy group. Indeed, in the radiotherapy group , an increase in tumors is always detected in more advanced stages, of greater volume or with more factors of poor prognosis. The same happens with the prevalence of factors that discourage surgery, such as obesity, advanced age, associated serious pathology or anesthetic contraindications.

Finally let's say that the surgery manages to obtain an exact posterior staging through the anatomo-pathological study. This is not possible with radiotherapy, which, despite imaging tests, always has a risk of understatement that can be quantified by 20%.

\*\*In daily practice, radical surgery is usually indicated in cases with a better prognosis and more favorable: younger patients, with tumors with a good prognosis, limited and without associated pathology. In the rest, which are numerous since prostate cancer is typical of advanced age, radiotherapy is usually indicated. The issue of drug-refractory impotence should be discussed beforehand with the patient, especially the youngest. In many cases the indication of radiotherapy is decisive since the surgical option is not contemplated. In others, pros and cons should be discussed with the patient in a neutral and objective manner in order to make the best decision. Fortunately, either with surgery alone or with subsequent radiotherapy or with radiotherapy, the local control is very satisfactory, greater than 80% and survival as well, although it is not necessary to underestimate the small percentage of very aggressive tumors with high potential for distant spread .



State-of-the-art linear accelerator installed at the Hospital Clínic de Barcelona

**STUDY**  ON INEQUALITIES **IN THE CONSEQUENCES OF TREATMENT IN PROSTATE CANCER**:  **AN AUSTRALIAN**  **WORK BASED ON GEOGRAPHY**

# Dr. Tania Estapé

 The scope of treatments and, as a consequence, the effects of them, in prostate cancer, are different according to geographical areas. Unfortunately, there are still inequalities in this regard.

A recent study in Australia has examined inequalities in the functional effects of prostate cancer and its treatment in prostate cancer survivors . The work aimed to examine the toxicities of the treatment and its effect on the functionality and therefore, the decrease in the quality of life of prostate cancer survivors. The work has been done by contacting patients from the Victoria Prostate Cancer Registry in Australia, with a sample of 10,924 patients. The researchers used the functional results in these patients, using the "Expanded Prostate Cancer Index Composite" test, applied after prostate cancer treatment . This is a specific quality of life scale for prostate cancer patients . They focused on the relationships between socioeconomic status and geographical distance, central variables of the study, To avoid bias, these variables were controlled by clinical aspects and Pathological.

7690 patients responded. The researchers made a functionality map from the results. In general, differences were observed by socio-economic status, in the direct sense: the poorer the status, the worse the quality of life. However, there are some nuances to this overall result: in rural Australia the tendency was to worse results in the functionality of these patients.

Thus, living in rural areas far from health centers, plus socioeconomic precariousness are predictors of worse outcome in the quality of life (functionality) of patients. As a detail, to say that, although in urban areas, there are better data, it cannot be generalized, because there was greater heterogeneity: in those areas people with worse socioeconomic status, again result in a worse result in their quality of life from prostate cancer treatment, and even in survival. It should be noted that of both data, the one that showed statistically significant differences was the poor socio-economic status, while the geographical area showed the aforementioned differences (rural versus urban) , but it did not become significant in the authors' analysis.

The authors conclude that it is necessary to focus on geographical aspects in the care of patients with prostate cancer. They point out that it is very important to take care of the quality of life and functional capacity of these men who, even cured, can suffer from various problems that interfere with their adaptation to life after cancer. You have to have a vision that includes these nuances, such as the area of residence and / or the socio-economic level of the patients. It is possible that, even if this study is focused on Australia, the results can be extrapolated to other countries. That is why we want to end this article with the following phrase from Martin Luther King: "Of all forms of inequality, injustice in health care is the most shocking and inhumane."



( s i g u e e n l a p a g . 8 )

( v i e n e d e l a p a g . 7 )

 Bibliographic reference of the work: Koo, K., Papa, N., Evans, M. et al. Mapping disadvantage: identifying inequities in functional outcomes for prostate cancer survivors based on geography. BMCCancer22,283 (2022).

https://doi.org/10.1186/s12885-022-09389- 4Add some text.

##  CARE NEEDS IN ADOLESCENTS AND YOUNG ADULTS (AYA) WITH TESTICULAR CANCER.

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Psychosocial care for adolescents and young adults (AYA) with cancer is a need that this group of patients and their families require. AIAs often do not receive age-appropriate specialized care due to a lack of knowledge and programs of how their needs differ from those of children and adults. older adults with cancer.

This group of young patients are more likely than other populations to be diagnosed with testicular cancer which is the most frequent between the ages of 15 and 30, a period of life in which people are usually active in different areas of their lives.

Although it is possible to successfully treat most testicular cancers, even when diagnosed at an advanced stage, more multidisciplinary programs of care are required during treatment and the period of follow-up to address the different effects on their quality of life: Needs in emotional well-being, social, affectation in sexual life, financial toxicity, changes in self-image, labor and school reintegration are aspects little studied, as well as the effects on their informal primary caregivers who face the challenge of supporting young patients with very particular needs.

In the psycho-oncological aspect the fear of cancer recurrence is very reported, for example there is a young population that adapts functionally, however others have greater dysfunction which it affects their quality of life. This transition in life can take months in which some side effects during treatment will go away, while long-term side effects such as fatigue and involvement in sex life can take time. or even be a sequel in some cases permanent.

 Developing programs with valid and reliable procedures that channel this group of AYA patients to specialized programs will be a challenge for a more inclusive clinical care in oncology, even more so in countries of medium and low income where this issue is still pending attention. Alternatives can be programs via social or virtual networks for which the young population presents a greater use of these technologies, which would increase the probability of their use and feasibility.

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Several multidisciplinary groups have begun the development of these programs in Spanish, now the challenge is to consolidate them, disseminate them and make them reach in a timely manner to the AYAS and their families to generate a community of health care in Oncology more empathetic with the needs of the youngest.

Galindo-Vázquez, O., Álvarez-Avitia, M. Á., & Alvarado-Aguilar, S. (2012). Psychological aspects of sexual affectations in patients with testicular cancer. Revista mexicana de urología, 72(5), 256-263.

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#  Prostate Cancer Video Collection





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