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Incidental prostate cancer after TURP or prostate adenectomy, how to proceed?

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Abstract

Background: During this work we will talk about incidental prostate cancer. It is defined by the presence of cancerous cells on the anatomical pathology specimens of RTUP or adenectomy in patients initially admitted for BPH management. That is, in these patients the preoperative PSA and DRE were considered normal.

There is still debate about the optimal treatment for patients with incidental prostate cancer. The objective of this research is to provide a clear challenge for care this subgroup of prostate cancer.

Methods: Our study was based on pubmed data, we used the terms: incidental, prostate cancer, and TURP. Then we limited the study period to the period between 1985 and 2023.

Result: We have eliminated all the articles not written in English. After we have chosen that we saw that they answer well to our subject.

Discussion: In a first plan we see that the classical TNM classification that divides these patients in T1a and T1b divide these patients in a heterogeneous group of patients.

Currently we can see that we can base ourselves on progression factors that allow us to divide each group of these patients into a subgroup of good prognosis and a bad prognosis, the reclassification biopsy has a place only in the active surveillance.

Active surveillance is the treatment of choice for PT1a patients with a GCS of 6 or less and a life expectancy of less than 10 years, Radical prostatectomy is an optional treatment for patients with long life experience and low differentiated tumors. and is the standard treatment for T1b patients with a life expectancy of more than ten years who accept surgical complications, Radiation therapy is optional in patients with stage T1a, in patients with a life expectancy of more than 10 years and with low differentiated tumors. On the other hand, it represents the treatment of choice of t1b whose life expectancy exceeds 10 years or between 5 and 10 years with low differentiated tumors, and in these patient's surgery is not indicated.

Hormonotherapy alone is indicated only for symptomatic T1b tumors for which curative treatment is not possible, Hormonotherapy combined with radiation therapy has demonstrated local control and better global survival.

Keywords: Incidental Prostate Cancer; TURP; Prostate Adenectomy

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1. Introduction

Prostate cancer is currently, according to recent data, the 2nd most common cancer affecting men [1].

Patients with benign prostate hypertrophy, before going to surgery, we look for prostate cancer by PSA and digital rectal exam. if these two elements are normal, we can go to TURP or prostate adenectomy, which we will treat on this paper, or to other surgical techniques to treat benign prostate hypertrophy [2–4].

Between 4 and 16% of prostate cancers can either be small and not cause PSA elevation or they can be anterior and not detectable by digital rectal exam [2,3]. These tumors can be diagnosed on RTUP or prostate adenectomy pieces.

According to the percentage of tumor cells in the piece of RTUP and adenectomy, these tumors can be classified as T1a and T1b.

However, the TNM classification is more than 20 years old and the recommendations are old and not clear in this subgroup of prostate cancer.

Most of these tumors are small and non-significant but many studies have shown that the prognosis can be poor for some of these patients[5].

The aim of this study is to provide a clear challenge to keep in front of a prostate cancer stage PT1a PT1b.

2. Methods

Protocol and registration: There is no protocol for this scoping review, and it has not been registered.

Study selection processes: We searched the PubMed database from 1985 to 2023 using the following meshes: incidental, prostate cancer, and TURP.

Identifying studies: the review focused on the management of incidental prostate cancer

Eligibility criteria: For the purpose of directing the selection of articles, eligibility criteria for inclusion and exclusion were established. Non-English papers were excluded. We have selected the English articles that treat our subject from diagnosis to treatment.

Selection process: The automatic selection of articles using search techniques across to PubMed, the references of the articles have been transported to the Endnote application, our review was inspired by the findings of these articles.

Data extraction from included studies: a preparation team formed by the authors selected the articles that answer the questions of our journal, and twenty articles were selected at the final stage to be the basis of our journal.

3. Results

On the results of our Pubmed search, after launching the search on the basis of our keywords, the first search yielded 251 articles. The titles and abstracts of the articles were processed by the work team. After this step 131 articles were eliminated by our team by applying the inclusion and exclusion criteria.

We have selected 20 articles (figure 1), and our review has been inspired by the novelties covered by these articles, from epidemiology, definition, classification difficulties, research into progression factors, and therapeutic means.

4. Discussion

4.1. Epidemiology

Every year 2.6 million new cases of prostate cancer are diagnosed in Europ and 2.6 million new cases of prostate cancer are diagnosed in Europe [6]. A non-negligible percentage (11%) of which is represented by prostate cancer[6].

In this paper we will talk about a particular subgroup, which represents between 4 and 16% of prostate cancers, it is the incidental prostate cancer (IPCa) [7].

4.2. Incidental prostate cancer definition (iPCa)

IPCa is defined by the presence of cancerous cells on the anatomical pathology specimens of RTUP or adenectomy in patients initially admitted for BPH management. That is, in these patients the preoperative PSA and DRE were considered normal [8].

The incidence of IPCa has been reduced considerably because of the success of medical treatment of benign prostatic hyperplasia [5,7], the use of PSA also allows to decrease this incidence thanks to their sensitivity in the detection of prostate cancer [7,8].

4.3. Shortcomings of the current T classification

In this situation we are clearly talking about a T1 prostate cancer according to the TNM classification:

- T1a Cancer is present in 5% or less of the tissue sampled.
- T1b Cancer is present in more than 5% of the collected tissue.

This classification is older than 20 years, and is based on statistical data that show that patients with less than 5% tumor tissue have a better prognosis than those with more than 5%[3].

Rajab et al conducted a study of 914 patients with T1 prostate cancer and found that within the T1a and T1b groups there are subgroups with different prognoses[3]. based on this idea another classification has been proposed which proposes to divide the T1 group in 4 groups (10%, 10-25%, >25-75%, >75%) instead of two (5 vs. >5%) [3]. this division will permit in the future to expand the therapeutic choice of these patients [3].

Determining the probability of progression and choosing if to treat it are the main challenges facing a urologist in the event of an incidental prostate cancer diagnosis.

Because there are many debates about the TNM classification, many studies have been done to search prognostic factors in order to classify these tumors into different prognostic categories.

4.4. Predictive factors for progression

At present, only the ISUP score can be considered as a prognostic factor [9,10]. T1a or T1b stage does not confirm or eliminate the presence of another synchronous tumor in the prostate [9,10].

Aurélien Descazeaud et al defined five parameters that allowed to divide these patients into two different prognostic groups:

Gleason score 6, preoperative PSA < 10ng /dl, postoperative PSA <2ng/dl, prostate weight < 60 and resected tissue weight < 40g [10].

According to this study, two groups can be defined, group of good prognosis, which have less than two parameters, the risk of progression at 5 years is estimated at 12%, and can benefit from active surveillance. And another group that have more than two factors with a good prognosis with a risk of progression at 5 years estimated at 47% for him an aggressive treatment can be discussed [10].

In the same context, Voges et al. have shown that there is a correlation between the postoperative PSA and the percentage of residual cancer [10].

liang et all have worked in this sense, and they have demonstrated the relationship between the weight of the resected prostate and the risk of recurrence. A resected tissue weight greater than 30 g is associated with a 100% recurrence-free survival at 10 years, but if it is less than 12 g the progression-free survival rate at 10 years is estimated at 73% [11].

Doo Yong Chung et all have shown that the subgroup of patients with preoperative MRI and postoperative PSA less than 0.08 ng/dl have a low risk of progression and may benefit from active surveillance.

The study by Antonio B. Porcaro et al. demonstrated some positive correlations between endogenous testostérone, Gleason group scores, and the ISUP tumor grade system. The impact of iPCA on testostérone endogene levels must be demonstrated.

4.5. Is it necessary to realize a biopsy of the prostate?

Prostate biopsy after IPCa is only useful in the context of active surveillance. it doesn't provide any additional information. this is explained by the fact that the IPCa are most often located in the transition zone and the central zone. This is explained by the fact that IPCa are most often located in the transition zone and the central zone. moreover it appeared that it does not add any more information on the Glasgow score [12].

The management of IPCa is a challenge for urologists [11]. There is no possibility to predict the absence of tumor cells after TURP and prostate adenectomy [11]. This is in accordance with the results of positive anatomopathology in 99% of post-PRT prostatectomies AND adenectomies [13].

One of the main therapeutic pillars of the IPC is active surveillance[14]. in this sense HAROW study in Germany, 46% of patients received active surveillance, and only 16% progressed [15]. The progression was always related to the PSA [15]. Epstein et al reported in his series that only 6% of IPCa was extracapsular. but it is always necessary to be prudent because the progression has been reported [15]. Active surveillance is based on PSA dosage and digital rectal examination every three months for two years and then every six months[15]. On the other hand, the active surveillance must be stopped when it will have a time of duplication of PSA less than three years, a modification of the consistency of the prostate, a histological progression or under the request of patient[15] [16].

According to Zhang et al the PT1b stage is frequently associated with an aggressive clinical and biological progression, so the place of radical prostatectomy remains important, but only 10% of PT1a have shown a progression at 5 years, and in these a surgical management can be discussed [5].

Radiotherapy is rapidly developing as an important part of the management of IPCa, despite their high risk of complication after TURP or prostate adenectomy, it is recommended for PT1b patients who are not operable, for patients PT1b who accept their secondary effects and who have a life expectancy > 10 years, or for low differentiation tumors PT1b. on the other hand, if we consider the benefit-risk ratio, radiotherapy remains optional for PT1a patients with little differentiation in young patients with a long life expectancy [17].

However in the paper of Devisetty et al the toxicity of external radiotherapy is similar in patients already operated for prostate (RTUP and adenectomy) [18].

According to Valgas et al study, radiotherapy has no place in the management of IPCa and does not provide superiority in terms of results [19].

Hormonotherapy has no place in the treatment of T1a IPCa[17]. However, it continues to be used f or symptomatic IPCa T1b patients who do not want a curative treatment[17].

Whatever the therapeutic technique used, the results are satisfactory. A good triage of the patients is necessary, especially before an aggressive treatment [20].

4.6. Limitations of the study

This review was based on the articles that treat IPC after TURP, currently after the development of HOLLEP, it is necessary on the next studies to think of adding the percentage of IPC after HOLLEP, TURP, adenectomy to better follow the percentage and the development of this entity of prostate cancer.

Abbreviation

RTUP : transurethral resection of the prostate, TRUSBx: Transrectal ultrasound prostate biopsy, PCa: Prostate cancer, PSA: Prostate Specific Antigen, UICC: The Union Internationale Contre le Cancer, GS : gleason score, RP: radical prostatectomy ISUP : International Society of Urological Pathology.

5. Conclusion

4 to 16% of prostate cancers may be diagnosed incidentally during TURP or prostate adenectomy, although a PSA dose and the digital rectal exam is normal. Prostate biopsy after diagnosis of prostate cancer by TURP or adenectomy does not provide additional information

The search for prognostic factors allows a better prediction of the aggressiveness of these tumours. The TNM classification is very old and does not allow to properly classify these patients. the recommendations for the management of these patients according to this classification should be reviewed.

Therapeutic recommendations in this domain must answer the questions in the published articles in this domain. Whatever the therapeutic technique used, the results are satisfactory. A good triage of the patients is necessary, especially before an aggressive treatment.

5.1. What is already known on this topic

Recommendation based on the old TNM classification which is more than 20 years old

- No other classification criteria recommended to better manage these patients
- Vague question of whether or not to do a prostate reclassification biopsy
- *What this study adds*:
- Develop a way to classify T1 tumors
- Develop other prognostic criteria for T1 tumors
- Demonstrate an absence of interest for biopsy reclassification

Compliance with ethical standards

Disclosure of conflict of interest

Authors have no conflicts of interest to declare.

Availability of data and materials

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Financial Disclosure

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