

Bladder Tumor in the Young Subject about 36 Cases

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ABSTRACT

Bladder tumors remain rare in young people. Tobacco is an important risk factor. The evolutionary profile of superficial tumors seemed to us different before and after 30 years. Tobacco is an important factor in the genesis of these tumors, but other factors may be hereditary. Their profile is still poorly known. The objective of this work is to: Specify the risk factors in this type of population, Define the characteristics of these tumors, Attempt to determine the evolutionary profile after treatment.

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Introduction

Bladder tumors are common. They represent the second urological cancer.

They are classically considered as a disease of the elderly subject. However, we are witnessing an increasingly increasing involvement of young people, certainly due to an influence of the environment and a change in life habits. Tobacco is an important factor in the genesis of these tumors, but other factors may be hereditary. Their profile is still poorly known.

The objective of this work is to:

Specify the risk factors in this type of population.

Define the characteristics of these tumors.

Attempt to determine the evolutionary profile after treatment.

Materials and Methods

This is a 12-year retrospective study from May 2006 to May 2018. We treated 860 patients for bladder tumor. Among these patients, 36 patients are under 40 years old. The diagnosis was made in front of clinical, radiographic and endoscopic arguments. Cystoscopy with resection of the tumor confirmed the nature and deep invasion. All stages and histological types were included. The statistical study made use of the SPSS software, with a varied and varied analysis. The characteristics studied are epidemiological, clinical, histological and biological, and also the evolutionary profile: recurrence and progression. All patients were followed by regular clinical examinations and cystoscopic checks.

Results

1- Epidemiology:

The average age of our patients is 33 years old with extremes of 20 and 40 years old. 20 patients (55%) are 30 years old (Figure 1). The male predominance is clear with 29 men (81%) and 7 women with a sex ratio of 4 men for a woman (Figure 1).

In the disease previous, we find a smoking intoxication in 12 cases (33%), with an average consumption of 10 packets / year. No family history was noted, occupational exposure in two cases. One patient was followed for Xerodermie pigmentosum, another patient had mental

retardation. There is also a case of associated bilateral upper excretory tract tumor.

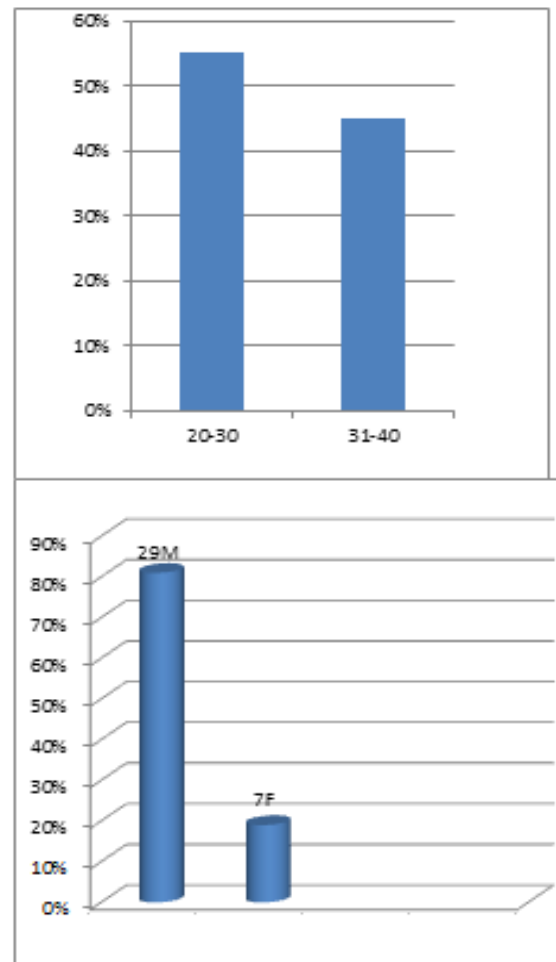


Figure 1. Tumor distribution by sex and age.

2- Clinic:

Hematuria was the most frequently revealing symptom found (33 cases, or 91%), including 10 cases of terminal hematuria. 29 patients (81%) consulted for signs of bladder

irritation (pollakiuria, urinary urgency), 12 patients (33%) for low back pain. In this case, it was a chance discovery after a pelvic ultrasound (Figure 2).

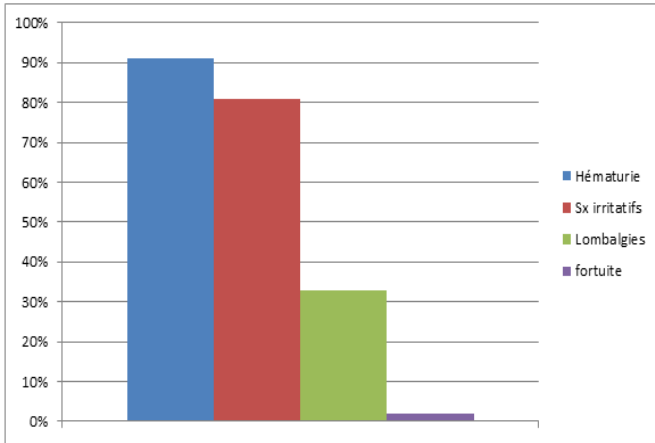


Figure 2. Clinical Call Signs.

3-Biology:

Biologically, anemia was found in 14 patients (38%), renal failure in 3 patients (5%). (Figure 3)

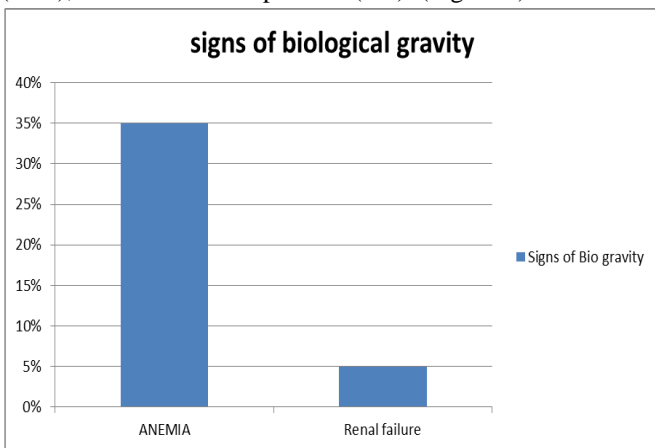


Figure 3. Signs of biological gravity.

4-Cystoscopy:

The study of the cystoscopic characteristics showed that the size was less than 3 cm in 24 patients (66%), multifocal in 15 patients (42%) or even diffuse and superficial papillomatosis in 26 patients (72%) (Figure 4)

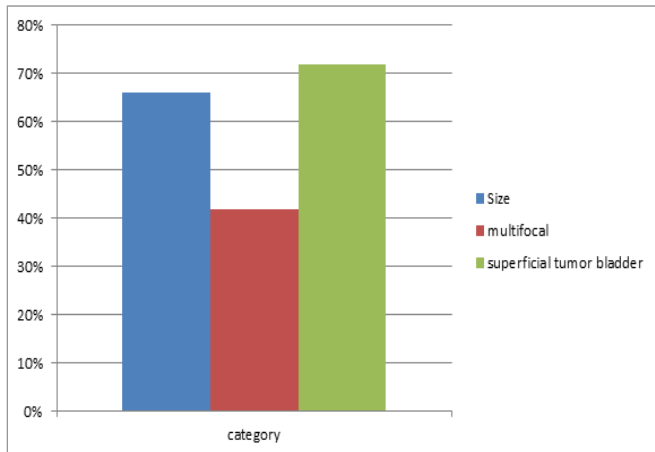


Figure 4. Cystoscopic Aspects.

5-Histology:

Histologically, in the age group 20-30 years represented by 20 patients or 55% of the total population analyzed the tumor is superficial in 70% of these patients (14 patients out of 20), it is infiltrant in 30% of these patients (6 out of 20 patients) (Figure 5).

In the age group 31-40 years represented by 16 patients or 45% of the total population analyzed, the tumor is superficial in 44% of these patients (7 out of 16 patients) (Figure 5).

Any age group, the tumor is superficial in 23 patients (63%), and infiltrative in 13 patients (37%). Urothelial carcinoma was the only histological type encountered

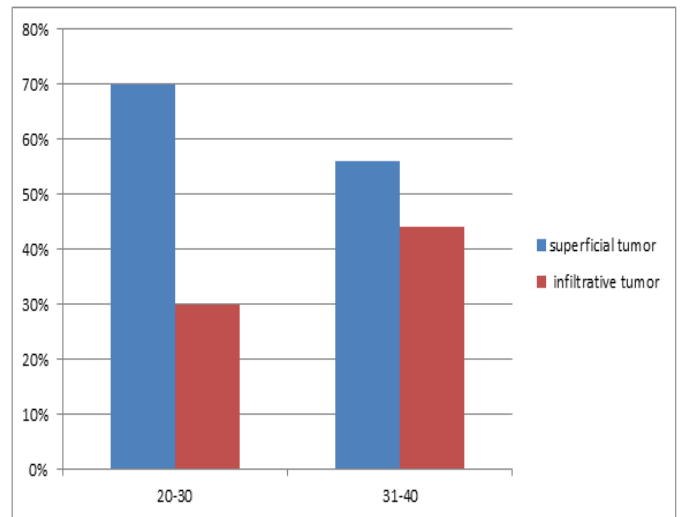


Figure 5. Tumor distribution according to age group and infiltrative character.

6-Treatment:

An endoscopic resection was performed systematically, followed in 12 patients with endo-vesical instillations: BCG in 10 cases (6 weekly instillations then maintenance cures for at least 6 months), Mitomycin in 2 cases (8 weekly cures followed by cures). interview).

The infiltrating tumors were treated by cystectomy (4 patients), anterior pelvectomy in two patients, a round trip in 2 patients and 5 patients refused the radical gesture. (Figure6)

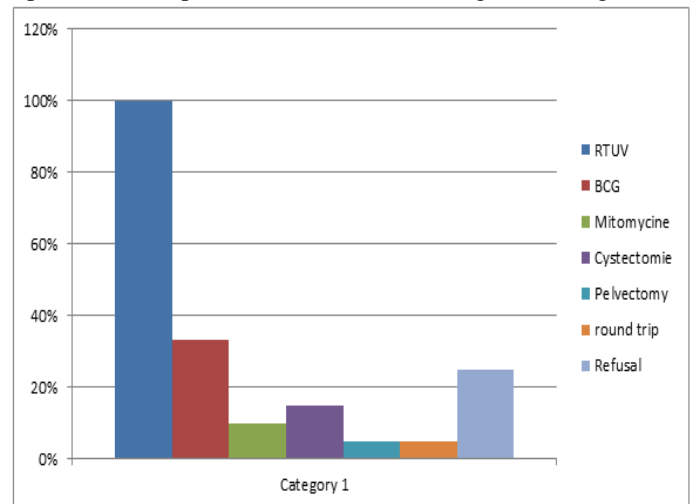


Figure 6. Therapeutic means used.

7-Evolution:

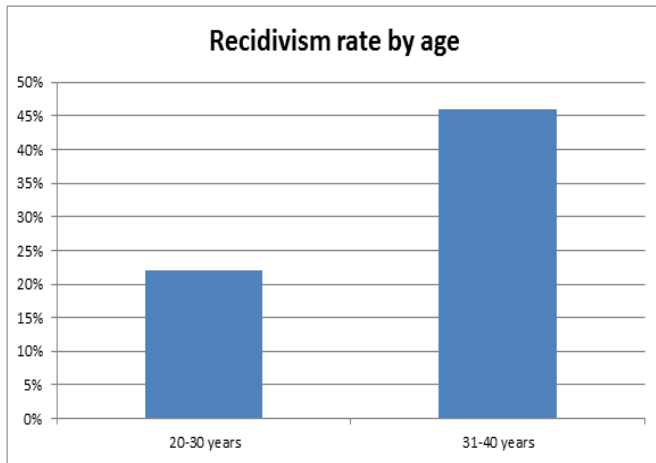
The average follow-up is of the order of 24 months, the overall recidivism rate is of the order of 36.4%; 22% for the age group 20-30 years and 46% for the age group 31-40 years. (Figure 7)

The risk of progression and death is respectively 8% and 6.1%.

Discussion

1-Epidemiology and risk factors:

Bladder tumors are very rare in people under 40 years of age. The first case was reported in 1872 by Smythe [1].



Piece de cystectomie

represent only 0.4 to 1% of all bladder tumors diagnosed [1,2,3,4,5] (4,2% in our series). Also in our series we find a net male prevalence: 4 men for 1 woman. In the literature, as in adults over the age of 40, there is a clear male predominance that is variously appreciated by the authors, with the sex ratio ranging from 3.6 to 9 men for a woman [6,2,3,4, 5]. While macroscopic hematuria is the most commonly observed symptom of symptomatic pain (91% in our series), the diagnosis should also be mentioned in the case of bladder signs and low back pain. In our series, the discovery was fortuitous in a patient. Among the recognized risk factors for urothelial tumor, smoking remains predominant, as in the older subject. This risk is classically related to the number of packets / year and the degree of smoke inhalation. It is about 32% in our series, however it is difficult in the young subject, especially before 30 years to affirm the harmful role of tobacco given the short duration of exposure in our series. Whatever the report of the WHO 2018:

Behavioral changes:[27]

- There are currently 1.1 billion adult smokers worldwide and at least 367 million smokeless tobacco users. Even though the prevalence rate has dropped, the number of smokers has remained virtually unchanged since the turn of the century because of population growth. It was already 1.1 billion in 2000.

-Consumption by sex: 43% of men aged 15 and over were smokers in 2000, compared to 34% in 2015; for women,

the percentage of female smokers increased from 11% in 2000 to 6% in 2015.

-Smokeless Tobacco: Almost 6.5% of the global population aged 15 and over consume smokeless tobacco (8.6% of men and 4.6% of women).

In our study, two patients had a professional risk factor (painters). Benton and Henderson [1,7], in a study of young people with urothelial carcinoma, with six exposures to paints, solvents or chemicals. The duration of this exhibition varies between 3 and 11 years. However, the most interesting case is that of a patient who developed cancer in the same place and of the same cell type as his father who worked 20 years as his son, in the metal welding. It is more than likely that the cancer of the son reflects an exposure to a carcinogenic factor aggravating a genetic susceptibility. The hereditary predisposition to bladder neoplasia was first evoked by Fraumeni [1,8] in 1967. In our series, no patient had a direct family history. One patient was followed for xeroderma pigmentosum, another patient had a mental retardation, there is also a case of bilateral upper excretory tract associated tumor. Among the various familial tumors reported in the literature, some were found in young subjects: Mc Cullough [9] 2 patients aged 36 and 38; Lynch [10] 1 patient aged 24 out of 23 cases in 6 families, or 13%. Several retrospective studies have found a higher rate of abnormalities on chromosomes 7 and 17 in progressive tumors of the elderly [7,12]. For Sidransky [12], a mutation on the gene coding for the p53 protein (chromosome 17p) seems to be a factor of poor prognosis and tumor progression. Iori [13] and Linn [14] find a high rate of mutation on these 2 chromosomes in their population of young subjects. Further analysis will be needed to confirm these preliminary results. Thus, the discovery of bladder cancer in a patient younger than 40 years of age should evoke a hereditary predisposition by searching for a family history, in order to identify families at risk for whom close urological monitoring is necessary.

2- Histological characteristics:

By analyzing all the series published in French and English-language journals, we find 347 stage Ta tumors on a set of 478 urothelial tumors, a rate of 73%. This review shows the clear predominance of superficial tumors, especially Ta stages, in our series this rate is of the order of 70% in the age group 20-30 years and 56 years in the age group 31-40 years old. Kutarski [15], in a literature review, examined the variation of the histological stage as a function of age. Thus, if the tumor rate Ta is 77% during the 4th decade, before 20 years, this rate reaches 95%. Only 3 authors, Wan [16], Witjes [17] and Yossepovitch [18] find the presence of isolated carcinoma in situ. The overall rate of C.I.S. is 1% on all series. This figure is lower than that found in older adults. This low prevalence is probably explained by the fact that C.I.S. is found mainly in patients with undifferentiated tumors. Regarding infiltrating tumors, the results are very variable depending on the series. Thus Javadpour [3] and Kutarski [5] do not find any infiltrating tumor in their study. On the other hand, Aboutaieb [1,19] isolated 14 cases of infiltrating tumors from 25 urothelial tumors. The analysis of the different series found 69 infiltrating tumors out of a total of 539 tumors stratified, a rate of 13%. Of these 69 infiltrating tumors, 61% exceeded the bladder limits (stage greater than T3). The frequency of advanced cancers at the time of diagnosis suggests a particular evolutionary potential of infiltrating tumors in young subjects [1,19]. In our series, the rate of infiltrating tumors is 30% in the age group 20-30 years and 44% in the

age group of 31-40 years. By taking all the series, in 18 cases, they were multifocal tumors of 224 patients under 40 years old, a rate of 8%. If we consider only patients under 30, the rate of multifocality is only 4.6% (5 out of 109 patients). These figures are much lower than those found in the older subject, between 26 and 49% depending on the series in patients with Ta G1 tumors [20,21,22], contrary to our series or this rate is very important reaching 42 % thus joining that of elderly subjects.

3- Recidivism and progression:

Aboutaieb [1.19] notes in his study a more favorable evolution of superficial tumors before 30 years since it found no recurrence or progression on all patients in this age group. On the other hand, in the group of patients over 30 years, the healing was noted in 3 cases, the recurrence in 3 cases and finally the progression in a T1G3 tumor case. Fitzpatrick [23] reports a recidivism rate of 8% versus 54% respectively before and after 30 years. Kutarski [15] has shown very well that the rate of recidivism and progression varies according to age. Thus, during the 4th decade, the recurrence rate over all the series is 48% corresponds to the figures usually found in the older subject. In fact, the recurrence rate of well-moderately differentiated Ta-stage superficial tumors (G1 and G2) in the elderly varies between 50 and 55% [24,25]. On the other hand during the 3rd decade, the recidivism rate is only 17%, and before 20 years, this rate is 5%. Regarding the rate of increase, it is 17% during the fourth decade. This figure is only 4% during the 3rd decade. No case of progression was reported before 20 years. In our series, the overall recidivism rate is 36.4%, 22% for the 20-30 age group and 46% for the 31-40 age group. The risk of progression is 8%.

4- Prognosis of urothelial tumors of the young subject:

Two great opposing theories clash. For some, the bladder tumors of the young subject are benign, most often papillary, non-infiltrating, unifocal and not very evolutive. Thus Franzblau [26], in 1968, stated that bladder tumors in young people under 30 years old were benign and without recurrence. McGuire [27], in 1973, had reported the benignity of the disease on 62 subjects with bladder tumors before 21 years old. The same is true for Javadpour and Mostofi [3] who found 40 cases of primary bladder epithelial tumors in young people under 20 years old. For others, the prognosis of these tumors is as pejorative as in the older subject. Johnson and Hillis [4] found in their 22 patients, 6 cases of infiltrating tumor. All are deceased within 2 years. Cherrie [2] had 11 tumors showing signs of aggression in 27 cases. Of the 11 patients, 8 died of their disease. In our study, the overall rate of infiltrating tumors is 37% (13 cases) with a death rate of 6.1%. A closer look at these results shows that the series are heterogeneous with respect to the age of the patients, which explains the observed differences. There appears to be a more favorable prognosis in superficial bladder tumors developed before 30 years old and even before 20 years old. Conversely, infiltrating tumors in this population seem very aggressive and therefore of very poor prognosis. Between 30 and 40 years, the evolution of superficial and infiltrating tumors is comparable to the older subject.

Conclusion

Bladder tumors remain rare in young people. Tobacco is an important risk factor. The evolutionary profile of superficial tumors seemed to us different before and after 30 years. Before 30 years, the evolution is favorable with few recurrences. After 30 years, the risk of recurrence and tumor progression seems comparable to that of the subject age.

On the other hand, the prognosis of infiltrating tumors is usually very dark revealing a particular aggressive potential.

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