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Research Article

Descriptive Study of Cancers in the Province of Nador, Rif Oriental of Morocco

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Abstract

This is a retrospective study of the epidemiological profile of 903 cancer patients treated at the local oncology center in Nador (Morocco) during the period between 2019 and 2023. The average age of patients at the time of diagnosis is 59 years +/- 12.8 with a female predominance in 62%. The average time to diagnosis is 6 months, neoplastic family history is found in 43.9% of all types of cancer combined. There is a predominance of gynecological (45% of cases) and digestive (21% of cases) localizations. The metastatic stage is the most common stage (49%). Cytotoxic chemotherapy is the essential treatment received in 86% of our patients and targeted therapy received in 2% of patients. Exclusive palliative care is noticed in 10% of cases.

Keywords: Study; Family history; Frequency

Introduction

Cancer is a global health problem. According to the WHO, worldwide in 2020 there were 19.2million new cases of cancer and 9.9million cancer deaths with a trend of being the leading cause of death in Western countries in the next years. It is a serious pathology, which can occur at any age and in any organ. The trend is upward; by 2035, there would be around 24 million incident cases of cancer in the world, and 13 to 16 million annual deaths from cancer [1]. Morocco is also affected by this global scourge. The estimated number of new cases of cancer per year is around 50,000 new cases; National plans have been developed since 2010 to fight against this chronic disease, the strengthening of access to care has enabled the inauguration of a local oncology center in the city of Nador in Morocco [2].

The objective of this work carried out for the first time in the Eastern Rif region of Morocco is to describe the epidemiological, anatomopathological and therapeutic particularities of the most frequent cancers in the Eastern Rif region with a view to having statistics and subsequently create a regional cancer registry for the eastern region, which will be an indispensable instrument both in epidemiological surveillance and in the fight against cancer.

Materials and methods

This work consists of a retrospective epidemiological study that took place in the oncology center of Nador, this center was founded in 2019, with extension in 2022. A medical file is created for each new patient and contains an academic medical observation. The variables in which we were interested in our study are sex, age at diagnosis, toxic and neoplastic antecedents, average consultation times, histological type as well as immunohistochemistry, tumor site, stage of illness and treatment received. We analyzed all medical records of cancer patients seen in the center during the period from February 2019 to March 2023. Statistical analysis of the data was performed using SPSS software.

Results

Over a period of 4 years (2019-2023), 903 incident cases of cancer were treated. All locations combined, were collected at the

local oncology center of Nador, of which 38% are men and 62% women. Cancer cases collected at the Service have an average age of 57+/- 12.8 years with extremes of 20 years to 90 years. It is also interesting to note that only 24% of patients are under 45 years old, and that 41% of patients are over 60 years old (Figure 1).

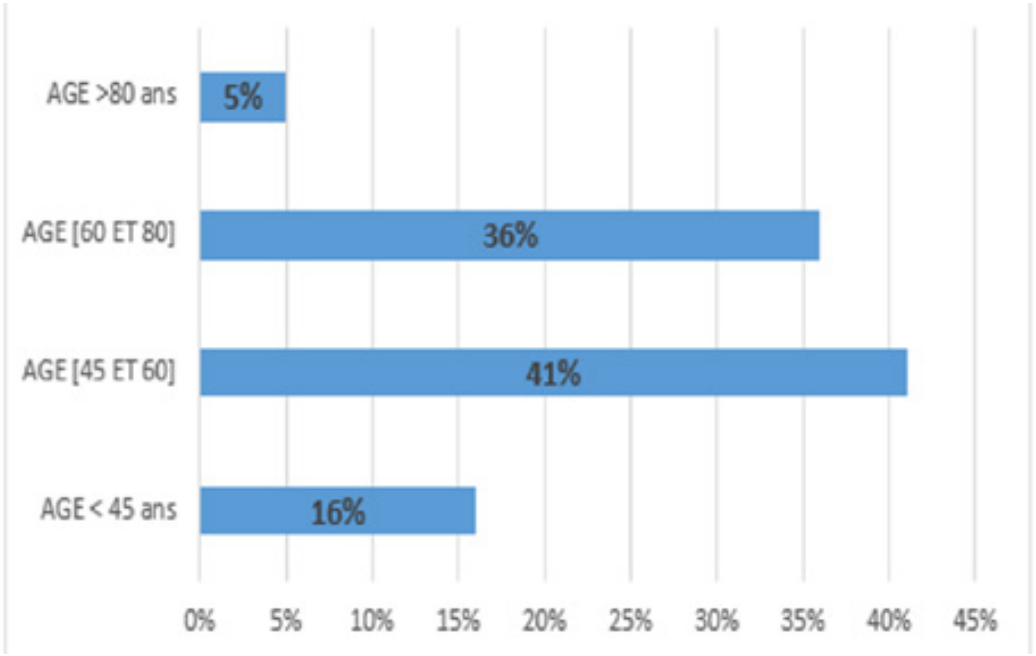

Figure 1: Distribution of patients according to age group.

The toxic antecedents are found only in men, with 98%, while the first-degree neoplastic antecedents presented 43.9% of all the patients studied.

Figure 2 summarizes the distribution of all cancers by location and shows the predominance of gynecological (45% of cases) and digestive (21% of cases) localizations, followed by thoracic and urinary localizations in 18% and 6% consecutively. Lung cancer is the first cancer in men with 40% of cases. In women, cancers of the breast predominate in 60% and of the digestive tract in 16% (Figures 3,4).

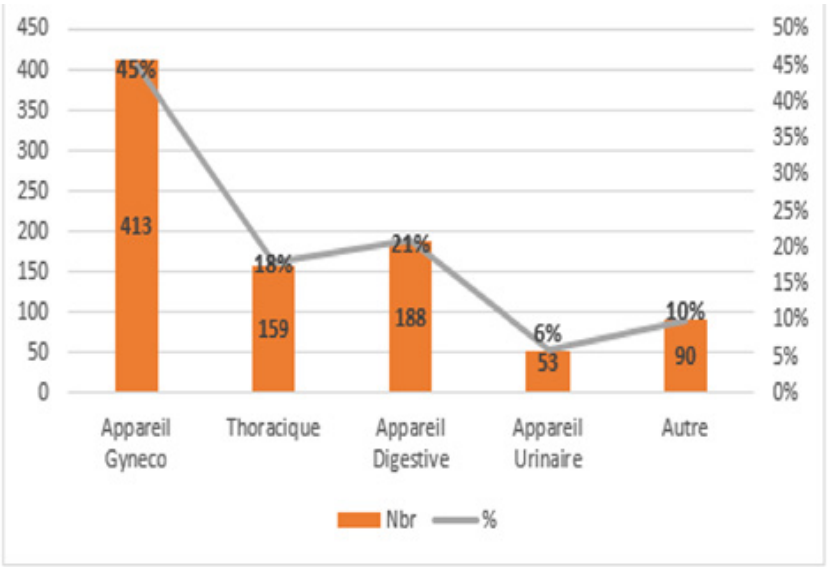

Figure 2: Distribution of tumor locations.

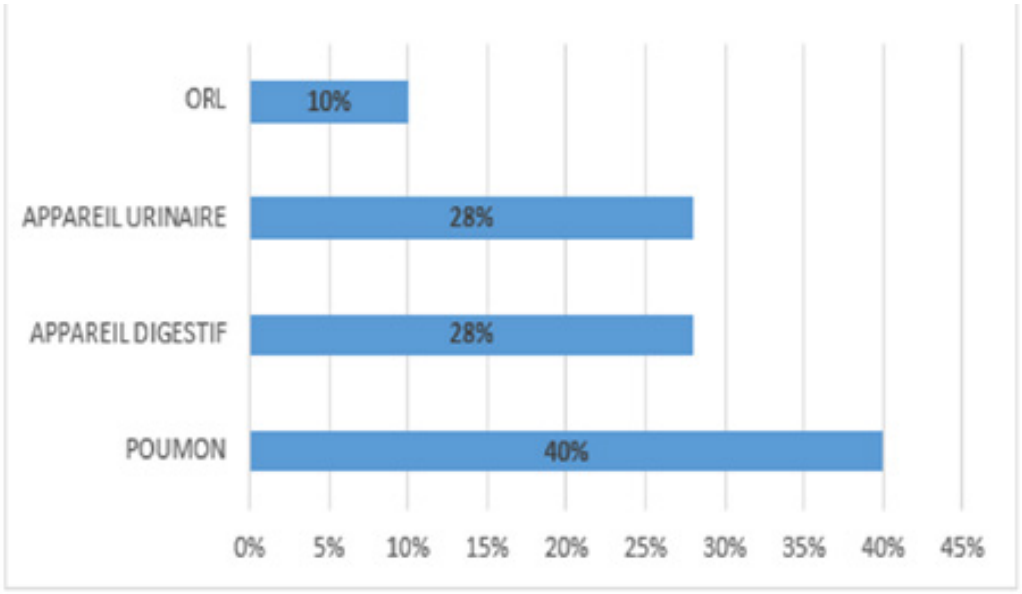

Figure 3: The most common tumor locations in men.

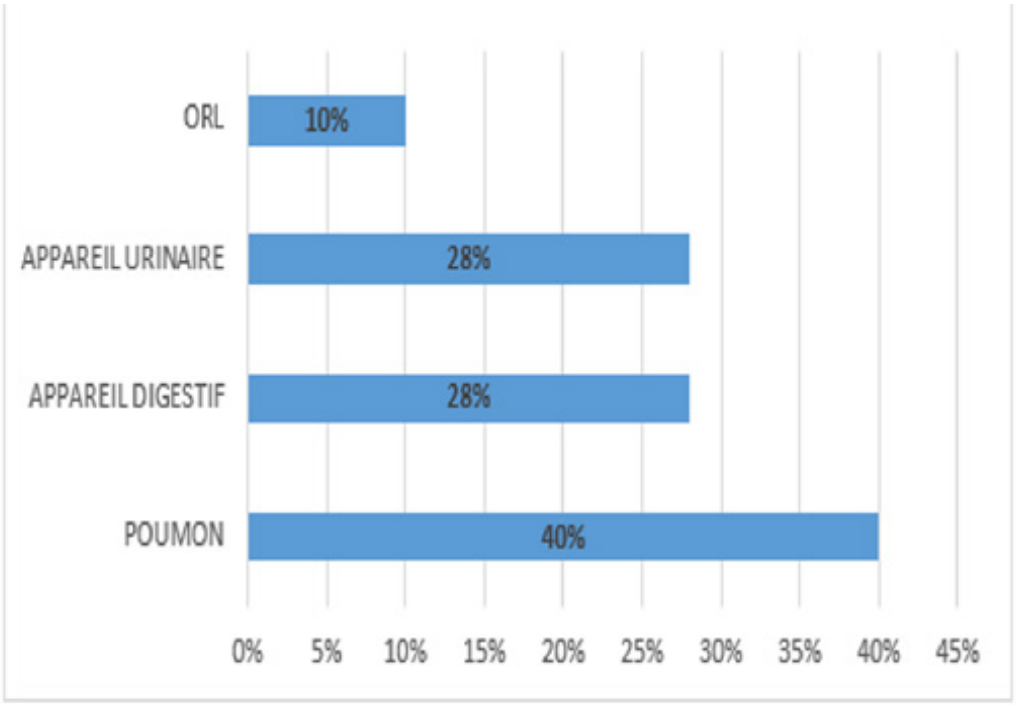

Figure 4: The most common tumor locations in women.

The histological type of adenocarcinoma is the most described in the pathology account, it represents 60% of cases, squamous cell carcinoma in 38% of cases. In breast cancer, the most observed IHC profile is that of positive hormone receptors and amplification of the onco protein HER2 (Figure 5).

The metastatic stage is the most remarkable stage in 49% of cases, while stages I, II and III are present in 5%, 13% and 33% consecutively (Figure 6).

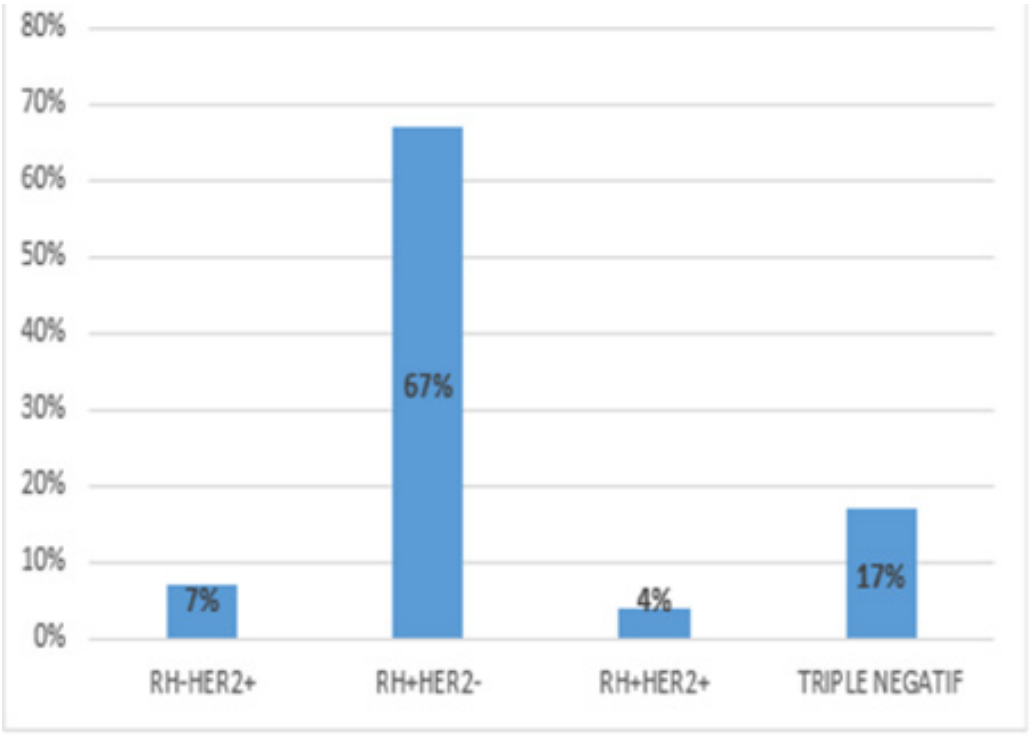

Figure 5: Immunohistochemical profile in breast cancer in %.

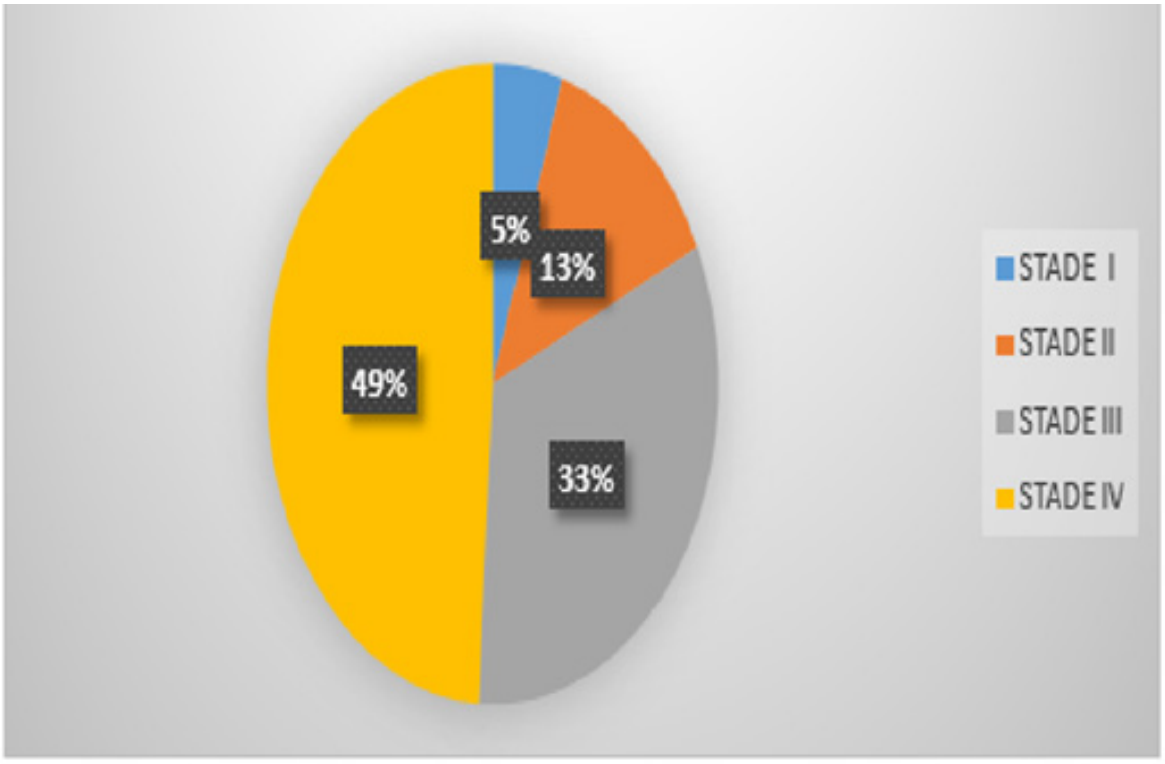

Figure 6: Distribution of patients according to cancer stages.

For the treatment administered, cytotoxic drugs were the most used 86% with 2% of targeted therapies, 10% of patients received only palliative care.

Discussion

The province of Nador, located in the northeast of Morocco, in the eastern Rif region, covers a coastline of 153 km, its population is estimated at more than 565,426 inhabitants, with an area of 3,221 km^2, or 3.6% of the total area of the Oriental region (90,130 km^2), and extends over approximately 88km from north to south and approximately 85km from east to west. It borders on the presidency of Melilla [3] In this work carried out for the first time in the Moroccan eastern Rif region, from the files of patients who's histologically confirmed cancers, we have noted certain particularities compared to other regions of the Kingdom and compared to Western series.

Compared to the overall number of registered cases, our results are lower than the data from the Maghreb countries [4]. These results can be explained by the youth of our center, and that most citizens did not have the information of the existence of an oncology center in Nador. In Morocco, in the Greater Casablanca region, the number of new cases is estimated at 120.4 per 100,000 inhabitants [5] Our incidence rate is certainly lower and underestimated because most cancer patients in the province are referred to the Center Hospitalier Universitaire Oujda (Morocco) for complete treatment. The female predominance reported in our series is reproduced in most national series [5,6].

In our series, the average age of cancer patients is 59 years. The average age among men is higher than among women (58 years against 55 years). Our results are similar to most series reported in the literature [7]. More than 40% of patients have a neoplastic family history of any type of cancer and more than 60% of patients have breast cancer, which is too high for what is seen in other regions of Morocco [8,9] and in the Maghreb region [10]. If we consider this notion, we will eventually be able to carry out genetic consultations to determine genetic alterations thanks to advances in molecular biology, immunohistochemistry, and cytogenetics.

Lung cancer in men and breast cancer in women are the first cancers recorded in our series, which is consistent with national data [5,6]. This high frequency of lung cancer in men with toxic antecedents found in 98% of cases justifies carrying out an environmental epidemiological survey to assess the risk factors, in particular smoking. In women, breast cancer ranks first among all other types of cancer, whose place in the screening program appears to be essential. The metastatic stage is the most encountered in our series, which can be explained by the delay in diagnosis (6months), and which pushes us to return to the strengthening of the prevention program.

Histologically, as in most series in the literature, we noted a predominance of carcinomas [11]. This predominance can certainly be explained by the non-availability of an onco-hematology unit in the city of Nador, and that most patients with this type of cancer are cared for at the University Hospital of Oujda (Morocco), which is known as a reference center in this pathology. The care of our patients is based on national (AMFROM, SMC, etc.) [12,13] and international [14,15] recommendations. In fact, all patients eligible for a specific treatment (immunotherapy or targeted therapy) not available at the Nador oncology center systematically refer to referral centers.

Conclusion

Based on these interesting results, the continuation of this study within the center and the creation of a real hospital registers of cancers and then a regional register in a second phase is essential.

This work nevertheless has the advantage of being the first of its kind in the Eastern Rif region. It does indeed show that cancer in our context presents different particularities from what is reported in national and international data, and it seems illogical to rely on these international data for any cancer control program.

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