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Gynecological cancers: Clinical and Therapeutic Profile at an Oncology Unit in Toliara Madagascar

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Abstract

Introduction: Gynecological cancers (GC) refers to a group of malignant tumors that affect the female reproductive system. In the Toliara region, GCs are often diagnosed at an advanced stage due to insufficient screening and inadequate treatment.

Materials and Methods: The retrospective data analysis was conducted within the oncology department of the AntanambaoToliara University Hospital

Results: Seventy-seven patients were included in the study. Cervical cancer was the most frequent (77%), followed by uterine cancer (12%) and ovarian cancer (9%); 29 (49.15%) patients with cervical cancer were between 35 and 54 years old. Bleeding was the most frequent symptom, observed in 40 patients (67.77%). At the time of diagnosis, 7 patients (11.86%) had early-stage disease, 44 (74.57%) had advanced-stage disease, and 8 (13.55%) had metastases. Ultrasound combined with chest X-ray was the most frequently performed diagnostic examination, in 53 patients (89.83%).

Conclusion: Cervical cancer, followed by uterine cancer, is the most common gynecological cancer. It is important to conduct further research on the risk factors for gynecological cancers in Toliara(Madagascar), and to raise awareness of this disease among the local population and

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general practitioners so they can refer patients to an oncology department if they experience symptoms.

Keywords: Gynecological cancers, Madagascar, Prevalence

Introduction:

Gynecological cancer (GCs) refers to a group of malignancies that affect the female reproductive system. These cancers primarily originate in the cervix, uterus, ovaries, fallopian tubes, vagina, or vulva.Each type of GCs has its unique characteristics, risk factors, symptoms and treatment options. Cervical cancer (CC) is the most common GCs in developing countries and utrine body cancer is the most common in developed contries[1-2]. In Madagascar, both in Antananarivo and Toliara, gynecological and breast cancer predominate among the cancers diagnosed in Oncology departments [3-4].

In the region of Toliara, GCsare often diagnosed at a late stage due to a lack of screening and poor management in a late stage. However, early detection at the subclinical stage, guarantees a better prognosis.

Our study aims to determine the Clinical and Therapeutic profile of these cancers diagnosed in the Oncology Department at the University Hospital AntanambaoToliara in order to strengthen screening measures and improve patient care.

Materials and Methods

The retrospective data review was conducted in theOncology Department at the University Hospital AntanambaoToliara. Medical records of women diagnosed with GCs from October 1st, 2016 to 30, March 2020 were reviewed. Of these cases, all patients seen in consultation or hospitalized, confirmed for GCs by an anatomopathological result were included. Begnin or non tumoral histological GCs were not included, and all incomplete files were excluded.

The clinical data about patient and disease characteristics, such as frequency, age, and clinical parameters including symptoms, pathological result, stage of the disease and

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modality of reference were recorded.The data thus collected was entered and analyzed by using EXCEL 2007. The anonymity and confidentiality of the data were strictly observed. This study has been approved by the local ethics committee.

Results

Seventy-seven patients were included. Cervical cancer was the most common in 77% followed by uterus body cancer and ovaries cancer respectively in 12% and 9%. Vagina and vulvar cancer accounted for 1% of cases each other. No fallopian tubes cancer was recorded during the study. Figure 1 represents the distribution of cancer cases by cancer site.

For cervical cancer at the time of the diagnosis, twenty-nine was between thirty-five to fifty-four years old. Bleeding was the most symptoms seen in 40 patients which represent 67.77% of the cervical cancer. Diagnosis was based on histopathologic evidence in all cases, squamous cell carcinoma was represented in 49 (83.05%) patients. At diagnosis, 07 patients (11.86%) had early stage disease, 44 (74.57%) had advanced disease, whereas eight (13.55%) had metastasis. Ultrasound combined with chest X-Ray was the most distant diagnosis performed in fifty-three (89.83%) patients.

For uterus body cancer, bleeding was the most symptoms seen in 04 (44.44%) patients. Histopathologic result revealed an adenocarcinoma in 04 (44.44%) patients and choriocarcinoma in 04 (44.44%). At diagnosis, 04 patients (44.44%) had early stage disease, 03 (33.33%) had advanced disease, whereas two (22.22%) had metastasis. Patients and disease characteristics for the uterus cancer are presented in (Table 2).

For ovarian cancer, abdominal mass was the most common symptom seen in 04 (57.14%) patients. Five (71.42%) histopathological revealed a cystadenocarcinoma. Four (57.14%) patients had early stage disease and 02 (28.57%) patients had metastatic disease. Patients and disease characteristics for the ovarian cancer are presented in (Table 3).

One patient, 56 years-old, was seen for a squamous cell carcinoma of the vagina, with a bleeding tumor mass seen in a metastatic stage.

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One case of a vulvar cancer was recorded, revealed by a tumor mass, the histopathological result was a squamous cell carcinoma.

Gynecological cancer seen in our department of Oncology was referred by a specialist doctor in seventy-six percent, by a general doctor in twenty percent and by themselves in four percent (Figure 2).

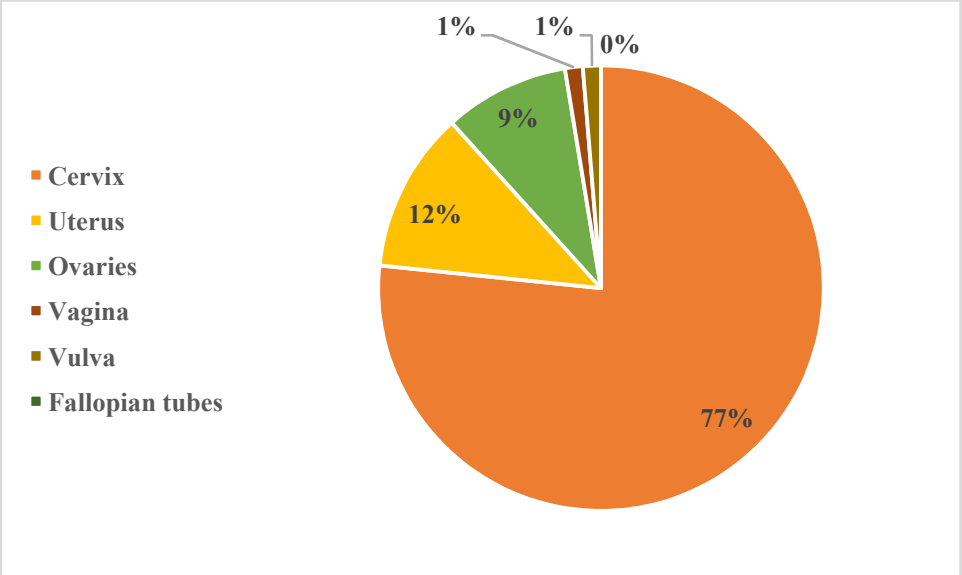

Figure 1: Distribution of cancer cases by cancer site

Patients and disease characteristics for cervical cancer:Table 1

DEMOGRAPHICS	**Number N=59 (100 %)**
AGE:	
15-34 years	08 (13.55%)
35-54 years	29 (49.15%)
55-64 years	16 (27.11%)
≥ 65 years	06 (10.16%)

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SYPMTOMS	
Pain	06 (10.16%)
Bleeding	40 (67.77%)
Vaginal discharge	02 (3.38%)
Pain with bleeding	11 (18.64%)
HISTOPATHOLOGICAL RESULT	
Squamous cell carcinoma	49 (83.05%)
Adenosquamous carcinoma	05 (8.47%)
Adenocarcinoma	05 (8.47%)
STAGE	
Early	07 (11.86%)
Advanced	44 (74.57%)
Metastatic	08 (13.55%)
DISTANT DIAGNOSTIC EXAMINATION	
Ultrasound	03 (5.08%)
Ultrasound +chest X-ray	53 (89.83%)
CT-Scan	01 (1.69%)
Ultrasound +chest X-ray + CT-Scan	02 (3.38%)

Patients and disease characteristics for the uterine body cancer:Table 2

DEMOGRAPHICS	**Number N=09 (100 %)**
SYPMTOMS	
Pain	01 (11.11%)
Bleeding	04 (44.44%)
Vaginal discharge	02 (22.22%)
Pain with bleeding	01 (11.11%)
Mass with bleeding	01 (11.11%)

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HISTOPATHOLOGICAL RESULT	
Adenocarcinoma	04 (44.44%)
Endometrioid carcinoma	01 (11.11%)
Choriocarcinoma	04 (44.44%)
STAGE	
Early	04 (44.44%)
Advanced	03 (33.33%)
Metastatic	02 (22.22%)

Patients and disease characteristics for the ovarian cancer:Table 3

DEMOGRAPHICS	**Number N=07 (100 %)**
SYPMTOMS	
Pain	02 (28.57%)
Mass	04 (57.14%)
Pain with bleeding	01 (14.28%)
HISTOPATHOLOGICAL RESULT	
Adenocarcinoma	01 (14.28%)
Cystadenocarcinoma	05 (71.42%)
Granulosa cell tumors	01 (14.28%)
STAGE	
Early	04 (57.14%)
Advanced	01 (14.28%)
Metastatic	02 (28.57%)

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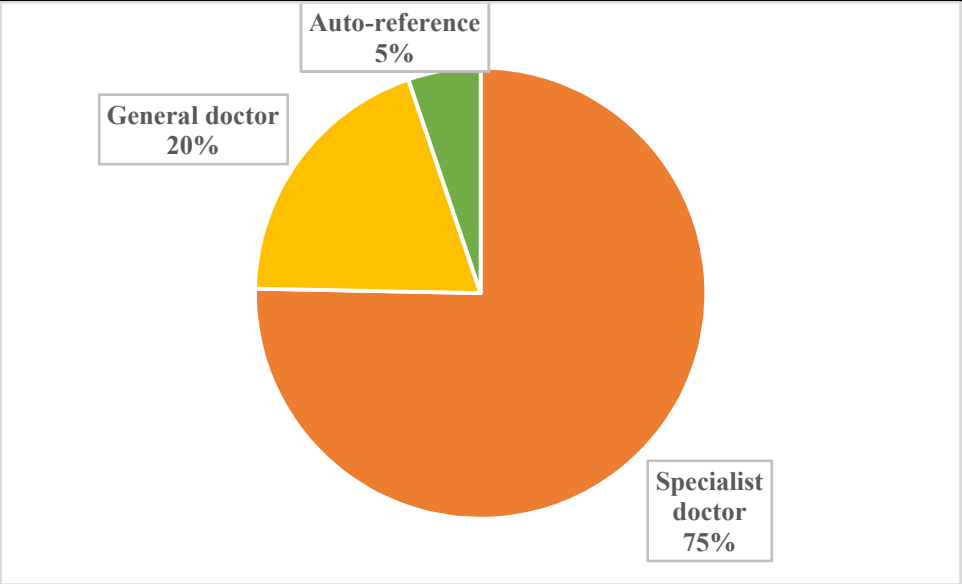

Figure 2: Repartition of the patient by referral

Discussion

Gynaecological cancers (GCs) include cervical cancer, vulvar cancer, vaginal cancer, uterine body cancer,ovarian cancer, and fallopian tube cancer depending on the location of the tumor. Binhua Zhu reported a total of 1 473 427 women diagnosed with gynaecological cancer in 2022, overall, 44.95% of them reported cervical cancer. In our department, among GCs seen during the period of study, cervical cancer was the most common GCs seen in 77%[5].In eight countries, which are classified as low and medium HDI, and low- and middle-income countries, cervical cancer-related cases and deaths constitute over 80% of all GCs [6]. In Central Africa, the incidence of GCs, particularly cervical cancer, is notably higher [5].Concerning the predominance of cervical cancer among GCs, our result is similar to those different study done in another country, similar to local study in Antananarivo by Ranaivomananain 2009-2010 [7], similar also to the the findings of Vonimiarantsoa M. in 2018, in his study on the epidemiology of cancers observed in the oncology department of the Antanambao University Hospital in Toliara, which found that

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cervical cancer predominates and ranks first among all types of cancer [8]. According to WHO data from 2018, cervical cancer is the fourth most common cancer among women worldwide, with an estimated 570,000 new cases; it is responsible for 7.5% of female deaths. This incidence is particularly pronounced in developing countries, where more than 85% of deaths attributable to cervical cancer occur, thus posing a major public health problem [9].

The incidence of GCs in the female reproductive system have been increasing due to improper lifestyle patterns, dietary habits, and genetic factors [10].

In our study from 2016 to 2020, the most affected age group was 35 to 54 years, representing 49% of the study population. This is similar to a study conducted by RaharisoloVololonantenaina CR et al. in Antananarivo, with an average age of 48.2 years in their study of cervical cancer diagnosed from 1992 to 2002 [11].

In the United States, the average age at diagnosis of this cancer is 50 years, but in rare cases, it can be found as early as 20 [12] which is older compared to our result.

In Mali, SiraSamake found an average age close to ours (49.62 years) [13]. Similarly, in 2009, a Malagasy study conducted by Hasiniatsy in Antananarivo [14] showed a similar average age, namely 49.65 years.

Contrary to what Rajaonarison T. found in 2005 at the CHUJRA in Antananarivo [15], the average age at onset of cervical cancer was 52.4 years, in his study on the clinical and therapeutic aspects of cervical cancer in Madagascar. A study at CENHOSOA Madagascar by Andrialambo K [16] showed that the age group most affected by cervical cancer was between 56 and 60 years with an average age at 56 years, which is higher than ours. Our findings are conflicting with the results reported in literature and indicate the importance ofan younger population with cervical cancer seen in the region which can probably caused by an early sexual intercourse without being vaccinated against human papilloma virus. The notion of first sexual intercourse before the age of 20 constitutes a potential risk factor for cervical cancer [17].

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" Gynecological cancers: Clinical and Therapeutic Profile at an Oncology Unit in Toliara Madagascar"

The distribution of cervical cancer cases globally is disproportionately lower among high-income countries than among low-to-middle-income countries because of the high coverage of organized screening services and adequate treatment of pre-cancerous lesions in the former. Organized screening services in high-income countries have shifted in many places to Human papillomavirus (HPV) screening rather than Papanicolaou (Pap) smear screening. In 2020, 604 000 new cases of cervical cancer and 342 000 deaths were reported globally. Ninety per cent of the deaths were in low-to-middle-income countries [18].

A Malagasy study, conducted by Hasiniatsy N.R.E. [14] on the evolution of the epidemiological, clinical, and therapeutic aspects of cervical cancer at the Oncology Department of the University Hospital/JRA of Anatananarivo, found that 87% of patients had their first sexual intercourse before the age of 20 and 55% before the age of 18. Another study, in 2014, by Patricia R. [19] on HPV vaccination in Madagascar, observed that young people in rural areas have earlier sexual activity; the median age of first sexual intercourse is 16.6 years for men and 16.1 years for women. Cancer in Africa appears at a relatively young age compared to the West, hence the importance of screening at an earlier age [20]. Vaginal bleeding was present in 65% of the patients in our study.This result is similar to a Malagasy study conducted by Hasiniatsy et al. [21] in the oncology department of the Joseph Ravoahangy Andrianavalona University Hospital in Antananarivo in 2006, which found that vaginal bleeding constituted 71.87% of the clinical signs of cervical cancer. However, another study about the epidemiology of cervical cancer conducted in the same center by Randrianarison J. in 2004 showed a higher percentage, with 82.7% of the study population [22]. According to a study conducted in Africa at the Kamenge University Hospital in Burundi on cervical cancer, D. Muteganya et al. found a similar result, with 82.2% of patients in their study presenting with vaginal bleeding, 73.1% with vaginal discharge, and 55.8% with pelvic pain [23]. In our study, pelvic pain represented only 10% of the symptoms of cervical cancer, and vaginal discharge 3%; a lower percentage compared to this result.Wyplosz reported that vaginal bleeding is the most frequent and initial symptom of cervical cancer, pelvic pain generally indicates metastasis or locally advanced disease, on the other hand, vaginal discharge which is often purulent is the

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expression of an infection that paves the way for cancer [24].Cervical cancer is a devastating malignancy of the cervix, with squamous cell carcinomas reported to be more prevalent than adenocarcinomas [25].

Squamous cell carcinoma was the most histopathological result for cervical cancer seen in seventy-four percent in our study which is similar to a study conducted in Madagascar,

In our study, we found 75% of the patients seen at a locally advanced stage, corresponding, and 13% were at a metastatic stage. The result of our study are similar with those of Andrianandrasana N., in his study on 2011 the treatment of cervical cancer in Antananarivo, which showed that 91.4% of his patients were at an advanced stage [26].

Compared to the results of Randrianarison J. in Antananarivo, squamous cell carcinomas diagnosed at a locally advanced stage constituted 50.8% and 14.7% at metastatic stage; these figures are higher than the number of cases in our study. However, a local stage cervical canceris less frequent compared to our result represented at 23.2% of these patients [22].

A lack of knowledge about cervical cancer and screening contributes to a late of diagnosis. This leads to a delayed diagnosis and allows the disease to progress to a much more complicated stage than could have been avoided if the condition had been detected early.

In Madagascar, a lack of financial resources contributes to a delayed cancer diagnoses. Razafimahatratra and DolorèsPourette, in their study on cervical cancer in Madagascar, report that women encounter difficulties in accessing treatment for this cancer and only seek medical help after having accumulated significant financial resources [27].In our study, the delay in seeking medical help could be explained by certain cultural factors, the preferential use of traditional healers and alternative medicine. Vaginal bleeding is often neglected by women and usually confused to a bleeding period which lead to a late diagnosis.Our result is accounted for by90%with a chest X-ray with an abdominal-pelvic ultrasound, 2% had CT scan for staging extension screening,

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Hasiniatsy in 2008, on the evolution of the epidemiological, clinical, and therapeutic aspects of cervical cancer at the HJRA Antananarivo department, showed (93.75%) underwent a chest X-ray for staging and that abdominal-pelvic ultrasound was performed in 89.58% of cases [14].However, magnetic resonance imaging (MRI) is the gold standard for assessing the locoregional extent of cervical cancer. Without cross-sectional imaging, deep pelvic invasion is difficult to analyze. Furthermore, two significant prognostic factors lesion volume and lymph node metastases are not evaluated. These are essentially the two points where only MRI can provide precise and useful information for therapeutic decision-making [28].

Therefore, a lumbopelvic MRI is necessary to assess locoregional extension of the parametrium and uterine body. It provides crucial information on delineating the macroscopic tumor volume [28].

In our study, 9 cases of uterine body cancer, representing 12% of the GCs was found. This is the second most common cancer encountered, after cervical. This is consistent with the study conducted by Ramahandrisoa and colleagues [29], which ranked uterine cancer second among GCs in terms of frequency, based on their observations in Antananarivo between January 2013 and August 2015, with an incidence rate of 12.35% of cases. Similarly, an African study over a ten-year period (from January 2005 to December 2015) carried out in Benin found the same ranking as ours regarding the frequency of this type of cancer location namely 6.5% of the cases of gynecological cancers recruited [30].Clinically, the most common symptoms for uterine body cancer in our study was uterine bleeding, present in 44% of cases. This is consistent with the literature, as more than eight out of ten women diagnosed with uterine body cancer experience bleeding or [31].

The disease was discovered at a local stage in 44% of cases, at a locally advanced stage in 33% of cases, and metastatic in 22%. Histologically, the literature states that more than 90% of uterine body cancer are adenocarcinomas arising from the epithelial structures of the endometrium [32].However, adenocarcinoma and choriocarcinoma were the main histological type in our study represented respectively 44% and 44% of cases, and

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endometrioid carcinoma in 11% of cases. Randriamaroson reported 24 cases of choriocarcinoma at Antananarivo during ten years [33]. Alfa et al. in Togo reported a predominance of adenocarcinomas in 39.81% of cases, followed by leiomyosarcomas in 30.55% of cases, squamous cell carcinomas in 17.6% of cases, and choriocarcinomas in 12.04% of cases[34] which is not similarto our study results.

Ovarian cancer was the third GCs seen in our study. In sub-Saharan Africa[35], Dakar [36] ovarian cancer was the second GCs seen which is not similar to our result. However, even in the United States and Canada, ovarian cancer third among all GCs after cervix, and uterine body cancer [37]. In our study, the clinical signs were the pelvic mass in 57%, pelvic pain in 29%; and pelvic pain associated with vaginal bleeding in 14% of cases. Our result is inconsistent with that of Taoufiki B, in his study on ovarian cancer seen in the oncology department of the CHU/JRA Antananarivo, which shows the predominance of pelvic pain in 61% of cases; followed by abdominal distension in 32% of cases, ascites in 32% of cases; the sensation of a pelvic mass was found in 21% of cases and metrorrhagia in 16.1% of cases [38].

Ovarian cancer was diagnosed in a late stage which is similar to the literature data [39]. Regarding histology, we found three histological types of ovarian cancer, with a predominance of cystadenocarcinoma in 72% of cases, followed by adenocarcinoma and granulosa cell tumor, each accounting for 14%. According to the literature, ovarian tumors are classically divided into two categories: epithelial and non-epithelial tumors, which differ in their cellular origin, pathogenesis, molecular alterations, gene expression, and prognosis [40]. The vast majority of malignant ovarian tumors are epithelial tumors, representing more than 90% of cases [41]. In relation to this, there is a discrepancy between what the literature states and the result of our study; this could be due to the small number of our recruitment.

Vulvar cancer accounts for 3–5% of gynecological cancers, with an estimated incidence of 1–2 cases per 100,000 women [42], and represents 1% of all female cancers [43]. One case of vulvar cancer was found during our study period. The highest incidence rates are

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observed in North America and Europe, with the exception of France, which has the lowest rate (0.9) among European countries. Conversely, the lowest incidence rates are found in Asia and Central and South America [44]. Clinically, the presenting symptom in the patient was vulvar swelling. This corresponds to the result found by Randriamalala and colleagues in their study on the epidemiology of vulvar cancers in the Oncology and Radiotherapy department of the CHU/JRA, showing that the perception of a vulvar swelling is the main sign, in 46.9% of cases [45]. Regarding histology, squamous cell carcinomas are the most frequently observed histological forms (approximately 90% of cases), followed by melanomas (7%), then adenocarcinomas and sarcomas [46]. This is consistent with our study, as the histological type of our case was squamous cell carcinoma.

Vaginal cancer is rare among GCs in women, accounting for less than 1% [47] of cases. One case of this vaginal cancer was reported in a 56 years menopausal woman, a squamous cell carcinoma, diagnosed in a metastatic stage in our study.

Among these cancers, the incidence of fallopian tube tumour is very rare [48] which is similar to our finding with no fallopian tumor tube seen.

Seventy-six percent (76%) of patients were referred by specialists for an oncology consultation, 20% (12 patients) were referred by a general practitioner, and 4% were self-referred.These days, patients prefer to consult specialists when they can afford it. This explains the high rate of specialist visits.Cancer is still poorly understood in our region; therefore, many patients are unaware of the existence of a local oncologist**.**

Limitations: The limits of the study are those of a retrospective study with missing or incomplete data and, at times, insufficient detail of recorded data for risk factors, treatment and follow up

Conclusion

CC followed by uterine body cancer appears most often among GCs. Squamous cell carcinoma remains the most represented in cervical cancer. Choriocarcinoma was in a same proportion as adenocarcinoma in uterine body cancer which is inconsistantto that reported

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in the literature with a predominance of adenocarcinoma only. Ovarian, vaginal and fallopian tube cancer were similar to the literature. GCs were seen in an advanced and late stage, referred by specialist doctor. It is important to investigate well about GCs risks factor Toliara Madagascar and sensibilize about GCs in this area for the population and for general practitioner for an oncology unit referral in GCs symptoms.

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Conflicts of Interest: The authors declare no conflicts of interest.

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