

Original Research Article

Epidemiology of gastrointestinal cancers in the hospital of Tambohobe Fianarantsoa, Madagascar

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Received: 01 August 2019

Accepted: 05 September 2019

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ABSTRACT

Background: Gastrointestinal cancers are among the top 10 cancers and causes of cancer death worldwide. Given the absence of cancer registry in Madagascar and absence of epidemiological study of gastrointestinal cancer in the province of Fianarantsoa, our aim was to describe the epidemiological aspect of gastrointestinal cancers at the University Hospital of Tambohobe Fianarantsoa.

Methods: Authors have conducted a descriptive retrospective study over a three-year period from January 1, 2015 to December 31, 2017 at the University Hospital of Tambohobe Fianarantsoa (in oncology, internal medicine and visceral surgery departments). The variables analyzed were age, gender, tumor location.

Results: Authors have collected 74 cases of gastrointestinal cancers. There were 46 males 62.16% and 28 females 37.84%. The mean age was 56.30±12.10 years old. The predominant age groups were 45-55 years. Authors found colorectal cancer in 43%, followed by liver carcinoma in 19%, then pancreatic cancer 14%, esophageal cancer 13%, gastric cancer 8%, duodenum cancer 3%.

Conclusions: Gastrointestinal cancers at the hospital of Tambohobe Fianarantsoa affect young people, especially the male gender with a predominance of colorectal and liver cancer. So, it is important to continue the vaccination against hepatitis viral B infection and to implement a colorectal cancer screening program.

Keywords: Epidemiology, Fianarantsoa, Gastrointestinal cancer, Madagascar

INTRODUCTION

Gastrointestinal cancers are among the top 10 cancers and causes of cancer death worldwide in terms of prevalence. These cancers have a greater impact in developing countries because of the lack of control of risk factors, particularly infectious risk factors, late diagnosis and often limited access to health care.¹ In Madagascar, given

the absence of a cancer registry, epidemiological data on these cancers come mainly from the capital's hospitals, where colorectal cancers are the most frequent.^{2,3} To our knowledge, no epidemiological studies of gastrointestinal cancers have been carried out in the province of Fianarantsoa. The aim of the study was to describe the epidemiological aspect of gastrointestinal cancers at the University Hospital of Tambohobe Fianarantsoa.

METHODS

Authors have conducted a descriptive retrospective study over a three-year period from January 1, 2015 to December 31, 2017. This study was conducted at the University Hospital of Tambohobe Fianarantsoa (in Oncology, internal medicine and Visceral Surgery departments). Authors included all patients with a diagnosis of gastrointestinal cancer. Cancers of the esophagus, stomach, were necessarily confirmed by histological examination. Hepatocellular carcinoma was diagnosed in front of a heterogeneous and/or nodular liver on ultrasound with elevated AFP >400 IU/l. Pancreatic cancer was diagnosed in front of a pancreatic mass and dilation of the bile ducts without hepatic pathology detectable on abdominal ultrasound. Metastasis in the gastrointestinal and suspected cancers of the esophagus, stomach, colorectal with no histological proof were not included. The variables analyzed were age, gender, tumour location. The data analysis was performed by Epi Info version 7@.

RESULTS

Authors have collected 74 cases of gastrointestinal cancers with a prevalence of 0.0013%. There were 46 males 62.16% and 28 females 37.84%, giving a sex ratio: 1.64. The mean age was 56.30±12.10 years old. The predominant age groups were 45-55 years (Figure 1).

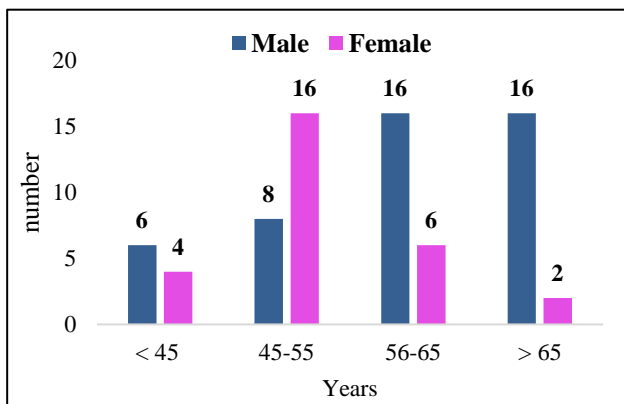


Figure 1: Age group distribution.

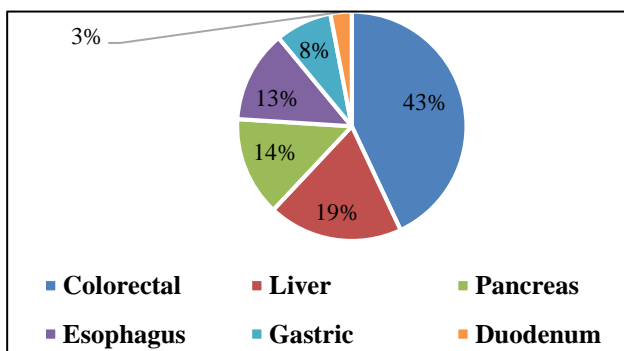


Figure 2: Cancer location.

There was a predominance of colorectal cancer in 43%, followed by liver carcinoma in 19% and then pancreatic cancer 14%, esophagus cancer 13%, stomach cancer 8%, duodenum cancer 3% (Figure 2).

DISCUSSION

The frequency of gastrointestinal cancers less than 1% in Tambohobe hospital. This frequency is probably underestimated because only departments that generally manage gastrointestinal cancers have been taken into account and any suspicion of gastrointestinal cancer. That didn't respond to our inclusion criteria was not included. Our mean age was 56.3 years, Diarra in Bamako reported 55.6 years, and according to Howlader in the United States the mean age was 69 years.^{4,5} The age is rather young in African countries compared to Westerners. This can be explained by short life expectancy, in Madagascar which is 66 years old and in the United States at 79 years old in 2017.⁶ In addition, there is early exposure to risk factors such as early smoking initiation: 14.6% before the age of 10 in Madagascar.⁷ This exposure to smoking as a risk factor for gastrointestinal cancer has been reported by many authors.⁸⁻¹⁰ The sex ratio is 1.64 in our study, 1.5 for Diarra in Bamako and for Darré in Togo.^{4,11} Authors can say that there is a male predominance of gastrointestinal cancers in these regions, because men are more exposed to risk factors (alcohol, tobacco, hepatitis B and C) and there is also a protective role of hormonal factors in women.¹²⁻¹⁴ For tumor location, the first in our study is colorectal, then hepatic and esophageal cancer. For Diarra in Mali, stomach cancer is first, then the liver and colorectal cancer.⁴ For Chbani et al, in Morocco colorectal cancer is first, followed by liver and gastric cancer. Indeed, colorectal cancer is the most frequent gastrointestinal cancer.¹⁵ The incidence of gastrointestinal cancer is increasing in the developing countries due to lifestyle changes and lack of screening.¹ In Madagascar there is no screening program. In this study, gastric cancer is the second most common location, this can be explained by the high prevalence of *Helicobacter pylori* is estimated to 82% in Madagascar.¹⁶ Gastric cancer also has a high prevalence in Mali because this early *Helicobacter pylori* infection, which is favored by the low socioeconomic level.^{4,17} Liver cancer occurs mainly in 83% of countries in developing countries.^{1,18,19} This may be explained by a low vaccination rate against hepatitis B and aflatoxin contamination in food. In Madagascar, the prevalence of hepatitis viral B infection is high, estimated to 23% and the vaccination against this infection has only been introduced into the national program of vaccination since 2002.^{20,21}

CONCLUSION

Gastrointestinal cancers at the hospital of Tambohobe Fianarantsoa affect young people, especially the male gender with a predominance of colorectal and liver cancer. So, it is important to continue the vaccination

against hepatitis viral B infection and to implement a colorectal cancer screening program.

ACKNOWLEDGEMENTS

Authors would like to thank University Hospital of Tambohobe.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Ranaivomanana M, Rafaralahivoavy T, Razafimahefa J, Rakotovao AM, Rakotoarivelo RA, Razafimahefa HS, et al. Epidemiology of gastrointestinal cancers in the hospital of Tambohobe Fianarantsoa, Madagascar. *Int J Res Med Sci* 2019;7:3619-21.