

Typical gastroesophageal reflux disease in the general population in Cotonou: Therapeutic itineraries, beliefs and associated dietary factors

Abstract

Background: Gastroesophageal Reflux Disease (GERD) is a public health problem in the adult population in the West. In Africa, few studies have been published on this condition. This study aimed to describe the therapeutic itineraries of patients suffering from typical GERD and to identify the beliefs and dietary factors associated within Cotonou.

Patients and methods: This was a cross-sectional descriptive and analytical prospective collection study that took place over a period of 1 month (in June 2018). We included 728 individuals aged 15 years or older who had given their consent for the study.

Results: The mean age of the subjects was 31.9 ± 13.2 years. It was predominantly male (379 or 52.1%), with a sex ratio of 1.08. Out of 255 people with typical GERD, only 32 people (12.5%) had sought medical advice. The agents consulted were dominated by general practitioners (53.1%), followed in descending order by nurses (28.1%), traditional therapists and gastroenterologist specialists (9.4%). Out of 56 patients who received treatment, 26 (46.4%) had used self-medication. In terms of beliefs, typical GERD was predominantly perceived as a natural disease (96.9%) and as a curse in 3.1% of cases. Dietary factors associated with GERD were: consumption of alcoholic beverages ($p=0.03$), coffee ($p<0.001$), fatty food intake ($p<0.001$), chocolate intake ($p=0.02$), and soft drink intake ($p=0.04$). Other dietary factors such as spice intake (0.08), and tobacco intake ($p=0.81$) were not associated with GERD.

Conclusion: The majority of people with typical GERD in our series did not seek medical advice. Self-medication was frequent when treatment was provided. Typical GERD would be associated with consumption of alcoholic beverages, coffee, fatty meals, chocolate and soft drinks.

Keywords: typical GERD, therapeutic itinerary, dietary factors, cotonou

Introduction

Gastroesophageal reflux disease (GERD) is defined as the ascent of gastric or gastroduodenal contents above the gastroesophageal junction, without effort to vomit. This physiological phenomenon is considered pathological when it causes symptoms and/or structural damage (esophagitis) affecting the well-being and quality of life of those who experience it. Reflux of gastric contents is then in the majority of cases abnormally frequent and/or prolonged.¹

Symptoms of pyrosis and regurgitation are considered typical defining symptoms of typical GERD. In this case no further investigation is necessary. The response to treatment is then used to confirm the diagnosis.² However, many patients present with atypical manifestations of GERD, or those attributed to GERD. The most common "extra esophageal" manifestations thought to be related to GERD are atypical chest pain, ORL manifestations and chronic cough.²

GERD is a common disease, affecting 20-40% of the adult population in Western countries, of which 5-10% has daily symptoms. The natural history of this disease is currently better known. It is marked by frequent non-use of the health care system and, at the same time, frequent self-medication; a tendency for symptoms to recur; and the rarity (but not the absence) of severe complications.³ GERD is a public health problem in the West.⁴ Its prevalence is high, as is its socio-economic cost. It affects the quality of life of patients and puts

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them at long-term risk of esophageal adenocarcinoma via the endobrachyoesophagus.

Typical GERD is a very common disease in developed countries.¹ Its prevalence is increasing due to the growth of obesity.^{5,6} In France, the prevalence of typical GERD is 5 to 10% for daily onset of symptoms, 15 to 20% for at least weekly onset of symptoms, 30 to 45% for at least monthly onset of symptoms. However, these figures underestimate the true prevalence of GERD due to the existence of atypical forms that often escape investigation.¹ In a study in Finland, a prevalence of 22% was reported in patients admitted for endoscopy.⁷

In Africa, few studies have been published on GERD. They mainly concern hospital series, endoscopic series and a few rare studies in the general population. A prevalence of 24% in general medical consultations has been reported in Tunisia.⁸ A study in Dakar found a frequency of 16.75% in patients referred for digestive endoscopy.⁹ A study in the Abidjan population in 2013 showed that the prevalence of typical GERD was 14.5%.¹² The overall prevalence of GERD was 34.7% in the consulting population in Bujumbura, Burundi, with a predominance of females (40.3% versus 28% in males) and Helicobacter pylori infection did not appear to influence the presence of GERD.¹³ Several socio-demographic and lifestyle factors were implicated in the occurrence of GERD according to a study of students at the University of Burundi. These were: age, alcohol, obesity and tobacco.¹⁴

Otherstudies have been carried out in South America, particularly in Brazil, where the prevalence was 7.3%, increasing with age, especially after the age of 55 and higher among women, and where diet, sex and anxiety are predominant influencing factors.¹⁵ In Uruguay's urban population, it is 11.6%.¹⁶ In Argentina, the typical symptoms of GERD are wide spread and frequently associated with dysphagia and non-cardiac chest pain.¹⁸ In Saudi Arabia, it affects more divorced/widowed, obese and sedentary people.¹⁷

The interest in GERD stems from its chronic nature, its significant impact on patients' quality of life and its possible progression to adenocarcinoma of the esophagus.¹¹ It should be noted that its diagnostic and therapeutic management constitutes a financial burden for society in terms of drug consumption and the search for therapeutic alternatives for long-term management.¹⁰

A study conducted in Cotonou in digestive endoscopy centers in 2014 found a prevalence of 25.65% for GERD.¹⁹ In the absence of previous data on this condition in the general population in the Republic of Benin, we considered it appropriate to carry out this work. The aim was to describe the therapeutic itineraries of patients suffering from typical GERD and to identify the beliefs and dietary factors associated with it in Cotonou

Patients and methods

This was a cross-sectional descriptive and analytical prospective collection study that took place over a one-month period (in June 2018). We included 728 individuals aged 15 years or older who gave consent for the study. We didn't include subjects who were hospitalized during the inclusion period, and those who were unable to speak or mentally handicapped. Neighborhoods in cities were selected using the two-stage cluster sampling technique on a random basis. The dependent variable was typical gastroesophageal reflux disease (GERD) defined by the combination of pyrosis and regurgitation. The independent variables were: socio-demographic (age, sex, ethnicity, profession), medical history, clinical manifestations, and treatments received. The analysis was performed using SPSS 25 or SAS 9.2 statistical software. The accepted statistical significance level was 5%.

Results

Geographical location of the study setting

The commune of Cotonou is located on the coastal strip from which it takes its name from the Littoral department, resulting from the last administrative division of Benin on January 15, 1999. The Littoral department was a sub-prefecture of the former Atlantic department, which itself comes from the territorial division of 1958 where the country had six provinces resulting from the French colonial division. With an area of 79 km² (0.07% of the national territory), the Littoral department is the smallest of the twelve departments in Benin today. Located at the intersection of 6° 20' of the North parallel and 2° 20' East meridian, this department is bounded by Lake Nokoué to the north, the Atlantic Ocean to the south, the municipality of Sèmè-Kpodji (of the Ouémé department) to the east and the town of Abomey-Calavi (in the Atlantic department) to the west. It is the only department in the country with a single municipality, with 13 districts and 143 city districts. Cotonou is the economic capital of Benin and alone concentrates most all the administrative and political functions of the country.

Characteristics of the study population

The majority of the subjects in our study (52.5%) were young people between 15 and 29 years of age. The mean age was 31.89 ± 13.24 years, with extremes of 15 and 88 years. Of the 728 subjects included, there were 349 females (47.9%) and 379 males (52.1%). There was therefore a male predominance with a sex ratio of 1.08.

Therapeutic itinerary

Of the 255 subjects with typical GERD, only 32 (12.5%) had seen a health care worker. Of the 32 subjects who had consulted a health care worker, the use of the general practitioner was noted in 17 cases, compared with only 03 for the gastroenterologist (Figure 1).

One hundred ninety-nine subjects (78%) with typical GERD had not received treatment, versus 22% who received treatment. Of the 56 patients treated for typical GERD, 46.4% (26) were self-treated, and 53.6% (30) received medical treatment.

Patient interpretation of Typical GERD

The majority (96.9%) of subjects symptomatic of typical GERD interpreted it as natural, and like a badluckin 3.1%.

Dietary factors associated with typical GERD

There was a statistically significant association ($p=0.034$) between his alcohol consumption and the occurrence of typical GERD. There was also a statistically significant association between typical GERD and coffee consumption ($p<0.001$), too much fat in the diet ($p<0.001$), soft drink consumption ($p=0.048$), and chocolate ($p=0.024$), respectively (Table 1) (Figure 1).

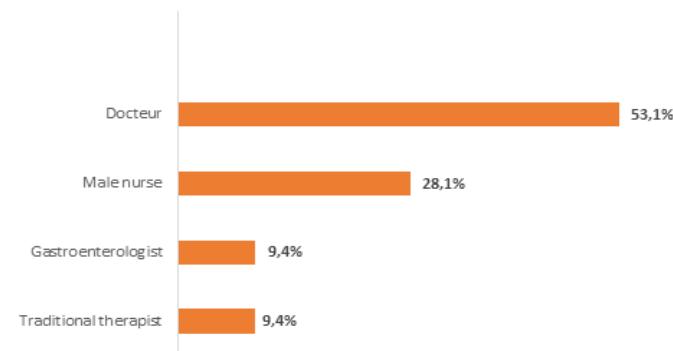


Figure 1 breakdown according to agents consulted.

Discussion

Of the subjects with typical GERD, only 12.5% had had a medical consultation. The use of a general practitioner was effective in slightly more than half of the cases compared to only 03 visits to a gastroenterologist. This may be explained by the trivialization of symptoms associated with typical GERD, due to their low level of discomfort in the study population. Also, it is worth noting the fundamental role of general practitioners in the management of GERD under our skies, the number of gastroenterologists available being not yet significant (about ten for the whole of Benin in 2018) and the cost of consultations in general medicine being quite affordable for the population.

Table I University analysis study of dietary factors associated with typical GERD

| | Typical GERD | | University analysis | | |
|-------------------------|--------------|-------------|---------------------|-------------|---------|
| | Yes | No | OR | IC (95%) | p-value |
| Tobacco | | | | | |
| Yes | 08 (40%) | 12 (60%) | 1.239 | 0.5-3.071 | |
| No | 247 (35%) | 459 (65%) | 1 | | 0.813 |
| Alcohol | | | | | |
| Yes | 57 (43.2%) | 75 (56.8%) | 1,535 | 1.045-2.255 | |
| No | 197 (33.1%) | 398 (66.9%) | 1 | | 0.034* |
| Café | | | | | |
| Yes | 113 (43.6%) | 146 (56.4%) | 1.782 | 1.301-2.442 | |
| No | 142 (30.3%) | 327 (69.7%) | 1 | | <0.001* |
| Food to much fat | | | | | |
| Yes | 169 (42.5%) | 229 (57.5%) | 2.094 | 0.613-2.173 | |
| No | 86 (26.1%) | 244 (73.9%) | 1 | | <0.001* |
| Soft drinks | | | | | |
| Yes | 164 (38%) | 268 (62%) | 1.379 | 1.007-1.887 | |
| No | 91 (30.7%) | 205 (69.3%) | 1 | | 0.048* |
| Spices | | | | | |
| Yes | 181 (37.2%) | 305 (62.8%) | 1.347 | 0.969-1.873 | |
| No | 74 (30.6%) | 168 (69.4%) | 1 | | 0.083 |
| Chocolate | | | | | |
| Yes | 75 (42.1%) | 103 (57.9%) | 1.497 | 1.058-2.117 | |
| No | 180 (32.7%) | 370 (67.3%) | 1 | | 0.024* |

The Tunisian study had to draw similar conclusions with the exception of a higher percentage of consulting subjects and specialized consultations (25%). In addition, 50.8% of subjects consulted a physician and 68.3% received medical treatment in the Turkish study in Sivas.²⁰ Ho et al.²¹ in a Singaporean study reported that 40% of GERD patients either received medical consultation or self-medication.

The almost majority of subjects symptomatic of GERD interpreted the disease as natural. We decided to investigate this aspect of the disease in the context of endogenous cultures and beliefs, particularly in Africa, where the population is accustomed to attributing disease to supernatural or paranormal events. The little embarrassing, episodic nature of the symptoms could partly explain this result. Also, one can also attribute to it an increasingly literate population that has a more global vision of the scientific world. It should be noted that it is socially devaluing in Beninese society to confess to having African cultural conceptions of diseases; similarly, it is not easily admitted to have recourse to traditional practitioners. Participants easily linked the occurrence of GERD episodes to the consumption of certain foods; these can be considered precipitating or triggering factors and are sufficient to explain them.²²

There was a statistically significant relationship between the

occurrence of typical GERD and consumption of alcohol, coffee, fatty foods, soft drinks and chocolate. However, only coffee consumption, fatty foods, and drug use were logically regressed as factors favoring the development of typical GERD. Chocolate was also found to be a contributing factor in Côte d'Ivoire.¹¹ Alcohol and tobacco were the factors found in the Greek population.²³ Fatty and spicy meals were found in Brazil.¹⁵ Tobacco consumption, fatty meals and medication were associated with GERD in Iran.²⁴ More precise quantification of dietary risk factors is needed.

Conclusion

The use of medical consultation was rare in our series, self-medication being more frequent. Associated dietary factors were consumption of alcoholic beverages, coffee, fatty meals, chocolate and soft drinks.

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Conflicts of interest

The authors have declared that they have no conflicts of interest with the publication of this document.

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