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Seroprevalence of Helicobacter Pylori Infection at SIKASSO Hospital

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Abstract

Introduction/purpose of the study: Helicobacter Pylori infection is probably the most common bacterial infection world wide. About 40% of the world's population is affected. The aim of this study was toto assess the seroprevalence of H. Pylori infection at Sikasso hospital.

Method: Thisis a cross-sectional study that took place from April 01, 2019 to March 30, 2020 in the Laboratory/ Blood Bank department of SIKASSO Hospital which receives patients over 15 years of age, of both sexes., regard less of the reason for hospitalization. The analyzes were carried out on blood taken from a dry tube. We did the test *H.Pylori* by the immunoenzymatic meth technique using the Bio Mérieux mini Vidas system.

Results: Were tained 250 patients including 199 positive cases. The meanage of the patients was 43.71±13.07 years, with extreme 15 and 81 years. The female sex was predominant with a ratio of 0.85. The seroprevalence of H. Pylori was 79.60%.

Conclusion: In order to better clarify the epidemiological and clinical characteristics of this infection in the Malian population, it may be interesting to conduct other studies with a more representative sample of the general population.

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Introduction

Helicobacter Pylori infection is probably the most common bacterial infection world wide where approximately 40% of the world's population is affected [1]. From 20 to 90% of adult individuals are infected depending on the country.

The prevalence of this infection has a variable geographical distribution. It is estimated between 70 and 96% in developing countries most often in symptomatic subjects against 30 and 52% in industrialized countries [2,3].

In North America, this prevalence is between 30 and 40% of adults. [ ] reference ????

In France, 50% of subjects over 60 and 10% of subjects under 20 have an H. pylori infection [4]. It is 56 to 80% in North China [3].

In Africa, H. pylori infection has been reported by numerous studies, generally in symptomatic subjects. The frequency of infection was respectively 90% in Côte d'Ivoire [5], 82% in Senegal [2], 85% in Nigeria [6] and 88% in Zaire [7]. At the Center Hospitalier Universitaire du Point G, this frequency was 89.4% during chronic gastritis [8] and 95% during gastroduodenal pathologies [9].

The interest of studying H. pylori infection lies in its pathogenic role gastroduodenal pathology. The close relationship between ulcer disease and H. pylori infection is reported by many studies, during which this infection is associated in at least 80% of cases with a peptic ulcer [3,4,10].

Although studies of the prevalence of H. pylori infection through out the world have made it possible to understand the serious ness of this infection, in Mali in general and in Sikasso in particular, few data are currently available on this infection, hence the interest of our study.

Method

This is a cross-sectional study that took place between April 2019 and March 2020 in the Laboratory Department of Sikasso Hospital. This department receives samples from patients over the age of 15, regard less of the reason for their hospitalization.

The Sikasso region is the third administrative region of Mali. The hospital it houses covers an area of about eight hectares and has 15 departments. It occupies the 1st rank in the reference, which puts it at the top of the health pyramid of the region. The study population was made up of any volunteer (hospitalized patient, medical staff, visitor) who presents with an HP serology request for msigned by a health care professional during the period, whatever their reason. The variables studied were the following: Age, sex, marital status, occupation, level of education, residence. Free and informed voluntary consent was sought to conduct the study process. The survey sheets did not include the names of the patients, which made it possible to guarantee anonymity.

Results

Socio demographic characteristics of patients

Our study involved 250 subjects. The female sex was predominant with an M/F ratio of 0.85. What is the number of people whose sample was received at the lab in the sameperiod? What would make it possible to calculate the hospital prevalence?

The average age was 43.71 ± 13.07 years, which corresponds to the modal class [41-60 years] with extremes of 15 and 81 years. Married people were predominant with a frequency of 88%. Those with no schooling were the most represented with 47.20%. Housewives were in the majority with 26%.

The majority of patients resided in the circle of Sikasso with a frequency of 98.8%.

Clinical and biological data

Table 1: Distribution of subjectsaccording to clinical pattern.

Clinical information	Effective	Percentages
Epigastralgia	122	48.8
Balance sheet	77	30.8
Dyspepsia	13	5.2
Pains	4	1.6
Ulcer	3	1.2
Others	31	12.4
Total	250	100

Epigastralgia was the major clinical reason leading to the request for H Pylori with 48.80%.

Table 2: Distribution of subjects according to the result of the serological test for H. pylori.

Test H. Pylori	Effective	Percentage
Positive	199	79.6
Negative	51	20.4
Total	250	100

The positivity index raised of the H. Pylori Test was predominant with a frequency of 53.3%.The positives were predominant in the age group [21-40] with a frequency of 45.60%.

Table 3: Distribution of the index according to school level.

School level	raised (%)	weak (%)
Unschooled	56 (28.14)	37 (18.59)
Superior	24 (12.06)	14 (7.04)
Secondary	19 (9.55)	21 (10.55)
Primary	10 (5.03)	6 (3.02)
Others	5 (2.51)	7 (3.52)
Total	114 (57.29)	85 (46.7)

There was no statistically significant association between the index and school level, (Chi2=3.2; P=0.525).

Table 4: Distribution of the index according to gender.
Index

Sex	raised (%)	weak (%)
Feminine	65 (32.66)	53 (26.63)
Male	42 (21.11)	39 (19.60)
TOTAL	107 (53.77)	92 (46.23)

There was no statistically significant association between gender and titer (Khi2 = 0.21 and p = 0.65).

We can bring this up in the discussion!!!

Table 5: Distribution of the index according to age group.
Index

Age	raised (%)	weak (%)
(15-20)	6 (3.02)	4 (2.01)
(21-40)	43 (21.61)	44 (22.11)
(41-60)	49 (24.62)	28 (14.07)
(61-80)	15 (7.53)	10 (5.03)
(81+)	00 (0.00)	00 (0.00)
(Total)	113 (56.78)	86 (43.22)

There was no significant statistical link between titer and age group (Khi2=5.853; P=0.210).

Discussion

The objective of this study was to assess seroprevalence of Helicobacter Pylori infection at Sikasso hospital in a symptomatic adult population.

Among the 250 analyzes that were carried out, 199 proved positive for Helicobacter Pylori, a frequency of 79.60%.

In our study, the male sex was slightly less represented with a frequency of 46%, while the females exrepresented more than half of the sample with 54%, i.e. a sex ratio of 0.85.

The seroprevalence of H. pylori infection was evaluated at 38.46% in our study. This result is lower than that reported in Madagascar by RM Ramanampamonjy, et al from Hôpital Joseph-Raseta de Befelatanana [11] who had a seroprevalence of 82%, this could be explained by a difference in the populations studied.

Age

We found a relatively high frequency of H pylori infection in the age group (40 to 60) years, with an average age of 43.71±13.07years and extreme ages from 15 to 81 years at most.

The averageage in ourseriesissignificantlylowerthanthatreported in Mali by K TINÉ STELLA CARINE with (47.1±15.83 years) while it is around 38 years in the works of A. COULIBALY, B. Naye in Mali and Attia in Côte d'Ivoire with respectively 38.2±13.9 years; 38.14±12.41 and 39.3 years old. This could be explained by a difference in the populations studied, In developed countries including Japan, Finland, the United States the prevalence of this condition is high in people over 50 years old [12,13]; This difference between continents could be explained by Less exposure to risk factors and contributing factors in developed countries; by better management of gastritis and good preservation of food in the cold.

Sex

The female sex is predominant in our study with a frequency of 54% or a sex ratio of 0.85. This female predominance is not the rule. Indeed, the male sex is predominant with a frequency of 62% and a sex ratio of 1.6 in the work of K TINÉ STELLA CARINE. This sex difference could be due to easier access to care for women. But a selection bias cannot be ruled out because recruitment was consecutive without matching.

The occupation: All socio-professional strat a were represented in our study with a predominance of house wives with 26.00% of cases, followed by civil servants with a frequency of 18.80%. Housewives predominate with 24.79% of cases, followed by civil servants 12, 9% in the K TINE STELLA CARINE study. Maiga M in 1991.

The residence: Our study showed that 98.8% of patients lived in Sikasso. This could be due on the one hand to the place of study and on the other hand to the lack of regional hospitals in terms of technical facilities and medical specialists. Our study showed that 55% of ailments were diagnosed in the gastrology department.

The seroprevalence of the index according to school level: The unschooled were the most affected with a prevalence of 28.14% of the high index and 18.59% of the low index followed by the higher level with a prevalence of 12.06% of the high index and 7 .04% of the low index.

We found no significant link between the index of the H pylori test of our subjects and the school level (Khi2=3.2; P=0.525).

The seroprevalence of the index according to gender: A strong predominance of seroprevalence of H Pylori infection was observed in females with 3**2.66%**of the high index and 26.63% of the low index against 21.11% of the high index and 19.60% of the low index for women.

The seroprevalence of the index by age group: We found a seroprevalence of infection due to elevated H pylori in all age groups. The most affected group was 41-60 years old with 24.62% of the high index and 14.07 of the low index. Infection rate varies with age [14-16]**.**

Conclusion

It appears that chronic gastritis is common in our country. All age groups are affected, with a predilection for the 41-60 age group. In order to better clarify the epidemiological and clinical characteristics of this infection in the Malian population, it may be interesting to conduct other studies with a more representative sample of the general population.

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