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Correlation of H. Pylori Infection and Multiple Sclerosis

KEYWORDS: MS, H pylori, serology

Alireza Ranjbar-Naeeni
Department of Neurology, AJA University of Medical Sciences, Tehran, Iran

***Mohammad Aminianfar**
Department of Infectious and Tropical disease, AJA University of Medical Sciences, Tehran, Iran.
*Corresponding author

Mohammad Darvishi
Department of Infectious and Tropical disease, AJA University of Medical Sciences, Tehran, Iran

Elnaz Asadollahzade
General Physician, Tehran, Iran

ABSTRACT *Background: Multiple sclerosis (MS) is a chronic neurological disease with intermittent periods of relapse and remission .So many people have used various methods of treatment. Due to the numerous problems caused by this disease, Taking measures to reduce the incidence of this disease and primary prevention of MS can be effective steps to control and reduce the dimensions of the disease. In this regard the most important step is to identify the factors contributing to disease and risk factors. Based on existing research, infections are the most important risk factors of MS.*

Methods: This study was a cross - sectional study. 100 patients with MS were enrolled, and after collecting demographic data, the frequency of H. Pylori was determined based on serological methods.

Results: According to the results, 41% of H pylori serology positive, 10% negative and 49% were suspicious. Factors, older age and longer duration of the disease had a significant effect on the positive H pylori (P <0.05); however, gender did not influence (P> 0.05).

Conclusion: The results of this study and comparison with other studies in this field, Suggests, H pylori serology is positive in about half of MS patients and it increases with age and duration of the disease. Therefore, the evaluation and treatment of these infections can be helpful in the treatment of MS.

Introduction:
Multiple Sclerosis (MS),is a chronic neurological disease with intermittent relapses and remissions . In this disease the peripheral nerve myelin coating gradually disappears and thus impairs the conduction of nerve signals. This will cause multiple symptoms in patients which cause chronic pain and fatigue and neurological symptoms such as paresthesia. (1, 2) According to statistics, reported the incidence of this disease in Iran (Tehran) in 2010, 9/51 per thousand persons (3).

The disease by creating physical disabilities and psychological disorders, effects on the patient's family and people close, Considered as a public health problem. (2,4) In nearly two-thirds of people with MS, pain and exhaustion, affects the quality of life for patients(5) So many people have used various methods of treatment(6,7). Taking measures to reduce the incidence of this disease and primary prevention of MS can be effective steps to control and reduce the dimensions of the disease. In this regard the most important step is to identify the factors contributing to disease and risk factors. Based on existing research, infections are the most important risk factors of MS. Helicobacter pylori is one of the risk factors discussed in this fields, and, some studies have shown that the presence of antibodies against Helicobacter pylori can be useful in the prevention of MS. Accordingly, due to controversy, in this study, serological H. Pylori was studied in patients with Multiple Sclerosis.

Methods: This study was a cross - sectional study. 100 patients with MS were enrolled, and after collecting demographic data, the frequency of H. Pylori was determined based on serological methods. After collecting the data, from SPSS statistical software version 15, chi-square test was used. Personal information was disclosed and written informed consent was received from all patients.

Results: Among 100 patients, 24 males and 76 females. This reflects the higher incidence of the disease among women. Patients were between 15 years to 60 years.

Table 1. Demographic data of the study groups

age	frequency
20year>	4)%4(
20-40year	79)%79(
40-60year	17)17%(
total	100

Duration of disease less than 5 years in 78% of patients, 17% between 5 to 10 years and 5% over 10 years were identified.

Table 2. Distribution of serologic H. Pylori

Titer H. Pylori Ab	frequency
20ua/ml>negative	41(41)%
20-30 ua/ml questionable	10(10%)
30 ua/ml < positive	49(49%)
total	100

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, there was no Significant relationship between H pylori serology results and sex of patients($P > 0.05$).

However, significant correlation was observed between the H pylori seropositivity with older age and longer Duration of disease. ($P=0.025$).

Table 3: Prevalence of H. Pylori based on age

age		H. Pylori Ab		total
	positive	questionable	negative	
20year>	0	0	4	4
20-40year	28	10	41	79
40-60year	13	0	4	17
total	41	10	49	100

Table 4: The prevalence of H. Pylori based on duration of disease

duration of disease		H. Pylori Ab		total
	positive	questionable	negative	
5year>	27	10	41	78
5-10year	9	0	8	17
10year<	5	0	0	5
total	41	10	49	100

Conclusion:

In this study, H pylori serology in 41% of patients were positive, 10% negative and 49% were suspicious. Factors, older age and longer duration of the disease on the H pylori positivity had a significant impact, but no gender effect in this field. In a study in Poland by Wender et al., The results of which were published in 2003, it was reported that 19% of MS patients have high levels of antibodies against Helicobacter pylori, which is a lower rate than in the general population (8) that the prevalence of antibodies against H. pylori positive cases in our study was higher. In a study by Li and colleagues in Japan (9) in 2007 it was announced that the anti-Helicobacter pylori in patients with MS was high in 23% of cases. But In our study, the rate was about 40%. The positive rate of MS in the study group was less than in the control group. In a study in America by Deretzi and colleagues in 2011, it was found that the level of antibodies against Helicobacter pylori in patients with MS were more than the general population, and this can be an etiologic factor in the development of MS (10). This is inconsistent with our results. In a study in India by Pawate and colleagues published the results in 2010 was announced, which cannot be clearly commenting about the role of antibodies against Helicobacter pylori in the development or prevention of MS that this suggests the importance of such studies. (11) In a study by of Long and colleagues in the United States in 2013, reported that 74% of MS patients have high levels of antibodies against Helicobacter pylori (12). In our study this amount was almost half the study of them. Interesting point in this study, observed higher levels of antibodies against Helicobacter pylori in patients with MS, Compared with 59 percent amount of observed in the control group. Which of course show etiological role for H. pylori in the creation of MS. In a study review by Hasni et al (13) in the United States in 2012, reported Lack of consensus on the role of H. pylori on the MS disease. In sum, based on the results of this the study and comparison with other studies in the field suggests the H pylori serology are positive in the nearly half of all people with MS that rate increases with age and duration of illness. Of course in the end, it is recommended further studies Performed to confirm the findings obtained in this the study with a larger sample size.

Conflict of Interest

The author declares no conflict of interest.

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