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HELICOBACTER PYLORI (H. PYLORI) INFECTION AND UNSTABLE ANGINA (UA): A CASE CONTROLLED DESCRIPTIVE RESEARCH STUDY HELD AT SERVICES HOSPITAL, LAHORE

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Abstract:

Objective: *To find out the existence of correlation between Helicobacter pylori (HP) infection and unstable angina*

Methodology*: This study is descriptive and case controlled which was carried out from January, 2016 to December, 2016 at Services Hospital, Lahore. Participants' serum HP- IgG levels were measured in CCU of the hospital. 96 patients (56 years as mean age) having Unstable Angina were selected for blood sampling during the course of study. The criterion was in accordance with American Heart Association. Blood sampling of 96 participants, whose mean age was 56 years, having no cardiovascular disease was carried out. Obtained blood samples were stored at twenty degrees centigrade. Serology findings were evaluated in connection with Unstable Angina. Chi squared test was used to analyze the collected data. Calculation of ninety-five percent confidence intervals and odds ratio was carried out after gender and age adjustment.*

Results*: Seventy-nine cases (82.3 %) with UA and fifty-five cases (61.1 %) in the control group demonstrated a +ve anti HP-IgG. Three was odd ratio along with 95 % CI: 1.9 – 4.3. Significant association was found between UA and HP-IgG positivity. No significant dissimilarity in terms of age and sex was found in HP-IgG positivity in cases and controls.*

Conclusion*: This study has shown association between UA and seropositivity of HP-IgG.*

Keywords: *Relationship, H. pylori and Unstable angina (UA).*

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INTRODUCTION:

If we look at some past numerous decades, coronary artery disease has emerged as common health risk. About more than fifty % mortality rates are being associated with this issue [1]. No exact reason has been established so far about atherosclerosis. Numerous factors such as diabetes mellitus, smoking, hyperlipidemia, family history and hypertension are some of potential causes of such issues. Nevertheless, such factors are considered approximately fifty % of coronary artery disease CAD implications [1, 2]. In the past centuries, infection and inflammation were thought to possess atherogenic outcomes. This false assumption has been neglected in the last century. The concept that coronary heart disease has an infectious etiology is recently resurfacing [3]. Bacterial and viral pathogens are assumed to have an association with inflammatory modifications noted in atherosclerosis [4, 5]. Recent research data has revolutionised the importance of infectious theory of coronary heart disease and atherosclerosis [6]. Current researches have indicated that chronic infection caused by Helicobacter pylori, a variety of dental pathogens and Chlamydia pneumonia can have likely function in atherosclerosis complications. This evidence is yet inconclusive. In case this is reality, antimicrobial therapy can be useful in low level prevention of coronary artery disease. Numerous other researchers have already validated this assumption [2].

Multiple researches have established a +ve association between chronic gastric infection and CAD and Helicobacter pylori. Other numerous reports have verified the assumption of robust association between coronary risk elements and Helicobacter pylori infection. Nevertheless, contradiction lies in the researches which were conducted for the sake of alteration of coronary risk elements after HP infection removal [7]. Our study was aimed to research the correlation between serologic statuses regarding with the existence of UA. It seems a challenging topic in literature.

PATIENTS AND METHODS:

Hospitalized patients who were suffering from Unstable Angina in the CCU ward of Services Hospital, Lahore which was carried out from January, 2016 to December, 2016. were assessed for anti HP–IgG presence. 96 participants were registered in the present study. $N=Z^2 P(1-P) / d^2$ formula (distance =0.1, N=size of sample, prevalence=0.5 and Z= confidence coefficient 95 %=1.96) was employed for calculation of sample size. Criterion for inclusion was clinical criteria in accordance with American Heart Association [1], age above thirty-five years, pain resolving with sublingual trinitroglycerin, pain duration from two to twenty minutes and retrosternal pain.

Patients were classified into three main groups. (i) NAP i.e. abbreviated form of “non-angina pectoris” possessing only 01 CC (ii) TAP which is abbreviated as “typical angina pectoris” containing all 3 CC), (iii) AAP which is a short form of “atypical angina pectoris” comprising of 2CC. Criteria for exclusion were (i) doubtful HP- IgG titters (ii) cardiac enzymes rising (iii) continual angina pain (iv) EKG changes. Every patient filled the questionnaire containing demographic data and relevant variables. Enrolment of 96 age and gender controls was carried out. Each participant was extracted 05 millilitres of clotted blood and control for exact anti HP-IgG by utilising method of ELISA having specificity of (95 % to 98 %) and sensitivity of (90 % to 95 %). IgG antibody tests for HP were carried out as per instructions of manufacturer. For the assessment of the reproducibility of the tests of laboratory, inclusion of blinded duplicate specimens (10 %) was ensured. Frozen serum in the vials was stored at twenty degrees centigrade. IgG titer lower than 0.9u/ml was taken -ve, 1.1u/ml ore more was thought to be as +ve and 0.9 to1.1u/ml was suspicious. Chi squared test was used to analyze the collected data. Calculation of ninety-five percent confidence intervals and odds ratio was carried out after gender and age adjustment.

RESULTS:

In the group which has 56.48 +/-12.91 years of mean age were found ninety-six cases with unstable angina (four ×NAP, thirty ×AAP and sixty-two× TAP). Females’ ratio was fifty-five %.
A (58.03+/-11.53) year was the mean age in control group which enlisted ninety-six cases. Females’ ratio was fifty-two %. In the control group (fifty-five cases) and in unstable angina cases (79 patients) exhibited a positive anti HP-IgG.

Owing to ambiguous results, 6 cases were dropped from the control group. Three was the odds ratio in ninety-five % confidence intervals: 1.9 – 4.3. Considerable association of HP–IgG positivity and UA were observed (P less than 0.001). No age and sex dissimilarity in HP-IgG positivity in controls and patients was seen (P more than 0.05). Furthermore, no association was noted between severity of medical result of typical angina pectoris, atypical angina pectoris, non-angina pectoris in Unstable Angina cases and HP-IgG serum level (P more than 0.05).

DISCUSSION:

Our research has explored a considerable relationship between UA pectoris and chronic Helicobacter pylori infection. Findings have revealed that Helicobacter pylori play an important role in accelerating the risk associated with Unstable Angina.

No association was found between Unstable Angina cases and HP seropositivity after gender and age adjusted investigations. Relationship between Unstable Angina and chronic Helicobacter pylori infection has been verified in many researches [8 – 11].

Since some of the studies adopted inadequate sampling procedures, there are doubts about the relationship between Unstable Angina and H. pylori infection. The findings of this study have been similar to the results of Rekeinesky and et al, [8, 9]. The results of Stone, et al [10] and Fraser, et al [11] were consistent too with our study. In Unstable Angina, Kowalski noted presence of HP-DNA in atheromatous coronary artery. The same was not true in control individuals [12]. Aforesaid researches correspond to the results of our investigations and recommend prescriptions of antibiotic against Helicobacter pylori. Study conducted by Stone and his companions has indicated the decrease of UA risk up to thirty-six percent after the use of anti HP drugs [7]. However, numerous studies have shown no relations between UA and Helicobacter pylori [13, 14]. For example, Semija, et al and Radke, et al are a case in point [13, 14].

Our study has confirmed the earlier findings in terms of the association between UA and anti HP antibodies [8, 12]. No doubt there are advantages and disadvantages in our study. Both male and females were part of our sampling taking into considerations their suitability for the relationship between UA and chronic infections. (56.48 +/- 12.91) years was the mean age of the patients. Cross sectional was the study design whereas the sample was not large. IgG testing was the base of our studies. Family members of the patients and hospital personnel were controls in the study at hand. High seropositivity is likely to show general environmental condition.

CONCLUSION:

This study has explained association between UA and seropositivity of HP-IgG. Helicobacter pylori infections were noted to be responsible for greater risks of Unstable Angina.

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