**P-Wave Dispersion as a Risk of Atrial Fibrillation Development in Patient with Asthma**

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**Introduction**

Background: Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia and often requires treatment in adults. There have not been many studies investigating the incidence of AF in asthma patients. The aim of this study is to investigate whether AF is increased in asthmatic patients using P wave dispersion (PWD) or not.

Methods: In this retrospective study, we collected data from the medical records of asthma patients who were hospitalized in Moewardi Hospital from January – December 2018 and 32 healthy volunteers. The lead ECG was recorded PWD. Data analysis was performed using multivariat analysis test.

Result: Results: Of the 100 asthma patients 62 (62%) had asthma, 20 (20%) had asthma with hypertension, 16 (16%) had asthma with diabetes, and 32 others were controlled. From the parameters of PWD from the group of patients with asthma, asma with diabetes, asthma with hypertension and in the control, there were significant differences (p = 0.02). The highest PWD is in asthma patients with diabetes (PWD 58.711) followed by asthma with hypertension (PWD 51.577), the asthma group (PWD 42.375) and the control group (PWD 33.398). Haemoglobin, WBC, creatinin and kalium in patient with asthma indicates that there is a significant difference. However, it doesn't indicate it's impact on PWD. There were no significant (p>0.05) differences in BMI, heart rate, hemoglobin, platelets, urea and sodium between groups.

Conclusion: We found that PWD values increased in asthma patients with diabetes compared to the control group. These results indicate that the risk of developing AF in asthma patients with diabetes is higher than the normal population.