

Short Report**ASPIRIN BRINGS ABOUT ITS BENEFICIAL EFFECTS BY MODIFICATION OF DIASTOLIC BLOOD PRESSURE OF SMOKERS****Ayed Mizher Habeeb Al-Shammari^{1*}, Ian Naylor², Robert Naylor²**

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ABSTRACT

Smoking promotes atherosclerosis which means hardening of blood vessels and blocking of arterioles. When this affects the blood vessels that supply the heart, it can lead to destruction of heart muscle. To try and find out why the aspirin had exerted such a beneficial effect, some of the major risk factors which contribute to the risk of heart attacks and strokes were examined in the subjects who took part in the trial, and they all were smokers. It has been observed that diastolic pressure had been modified during the treatment with aspirin.

Key Words: Smoker, diastolic blood pressure, aspirin, Nicotine

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INTRODUCTION

Stimulation of production hormone, epinephrine (also known as adrenaline), in the adrenal gland. That raises blood pressure because of nicotine which constricting blood vessels, due to reduction of oxygen in blood. [1]

Carbon monoxide which is one of important component of smoke is considered a lethal gas. Oxyhemoglobin are form by interferes between carbon monoxide from smoke and oxygen which has been breathed in attach to the hemoglobin, the oxyhemoglobin are necessary for the tissues of the heart and organs. [2] After delivering the oxygen to respective place, hemoglobin is again available for carrying oxygen. Carbon monoxide then attaches itself to haemoglobin instead of the oxygen and death can eventually occur because of oxygen starvation.

The most important aspect about elimination of nicotine it is excretion depending on pH.

The excretion of urine is reduced depending on the pH of the urine when urine alkaline and the urine increase when urine acidic.

Lactating women who smoke nicotine it is excreted in their milk, the nicotine in mammary milk smoker may contain 0.5 mg/liter nicotine in milk. [3]

Nicotine acts as a centre for clumping the platelets and develops high pressure of blood and aspirin was found for dissolving such clots. [4]

Aspirin inhibit the production of thromboxane which causes antiplatelet effect. In present research the patient who smoke nicotine and have developed high blood pressure were treated with aspirin.

The platelet molecules under normal circumstances bind together to repair the damage blood vessels. That is the reason to use aspirin for long term with low dose to prevent heart attacks, strokes, and blood clot formation in people with high risk of developing blood clot. It has been establish that dose of aspirin (low dose) to be given immediately after a heart attack to reduce the risk of another heart attack or the death of cardiac tissue. [5]

METHODOLOGY

To examine the effect of aspirin over the whole range of diastolic blood pressures, the patients (n= 150) were placed into three groups made according to their limits of diastolic blood pressure. This rather arbitrary grouping was not expected to produce identical numbers in each group but was rather to make comparisons between non-aspirin treated and aspirin treated patients more comparable – in terms of one factor – diastolic pressure. Total numbers of 192 patients were considered under observation that has developed Diastolic blood pressure. After keen observation the patients who were smoker and have diastolic blood pressure were sorted out and that number was found to be 152. Whole patients were divided into three groups on the basis of their diastolic blood pressure. Out of 56, 35 patients who were smokers were kept in first group with diastolic blood pressure greater and equal to 70mm Hg. In second group 40 out of 57 patients were treated with aspirin and their blood pressure range was considered of 70 to 80mm Hg. In third group 77 patients out of 79 were provided aspirin treatment and their diastolic blood pressure was considered equivalent and greater than 80mm Hg.

At high doses, aspirin may cause false-positive results for urinary glucose if using the cupric sulfate method (Benedict's solution) and false-negative results if using the glucose oxidase method (Tes-Tape). Urinary ketones measured by the ferric chloride method (Gerhardt) were affected when salicylates are in the urine (reddish-color produced). 5-HIAA determinations by the fluoremetric method may be interfered by salicylates in the urine. Falsely elevated VMA (vanillylmandelic acid) had been seen with most methods used if salicylates are in the urine. Falsely lowered VMA levels may be seen if using the Pisano method. Urinary excretion of xylose may be decreased if aspirin is given concurrently. Falsely elevated serum uric acid values were measured by using colorimetric methods. [6]

RESULT AND DISCUSSION

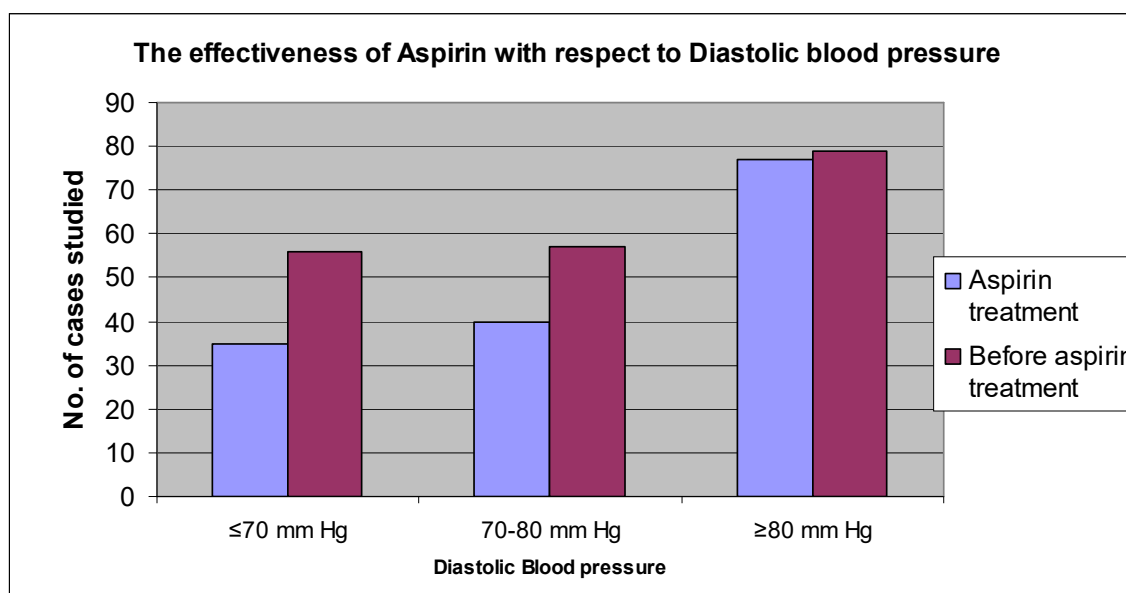
192 patients were admitted who have diastolic blood pressure problems but out of 192 patients only 152 were smokers and their diastolic blood pressure were normalized by aspirin treatment successfully. To cover whole range of diastolic blood pressure, the patients were grouping according to that limit of diastolic blood pressure. Out of 56 patients 35 were those patients who were smoker and their blood pressure were 70mm Hg and most of them were the patients of hypertension to cover their hypertension they smoked and their diastolic blood pressure is disturbed and they were benefited with aspirin treatment , while remaining[56-35=21] have this

problems but not because of smoking. The other group of patients who having their diastolic blood pressure problem lying between 70mmHg to 80 mm Hg, in this group of patients' only 40 patients were cured with aspirin treatment where as total patients of this group who were admitted to hospital was 57. The obtained results are comprehensively summarized in the Table 1 and Figure 1 as under;

Table 1. The distribution of patients into three 'levels of diastolic pressures', and the numbers treated by aspirin (75mg/day for x months). The difference between the total number of patients and the treated group are those that received placebo preparations.

Diastolic blood pressure (mm Hg)	Total patients (n= 192)	Aspirin treated (n= 152)	Relative risk (to show the benefit of aspirin treatment)
≤70	56	35	0.55
70-80	57	40	0.75
≥80	79	77	0.94

Figure 1. Bar chart of the numbers of subjects in each group as defined by their diastolic pressures ≤ 70mmHg, 70-80 mmHg and ≥ 80mmHg. The number of subjects who received either aspirin (the blue block) or non aspirin treated (the pink block) for each of the three diastolic pressure groups which were studied. The aspirin treated groups received 75mg which was given for 7 days.



While; the patients who have diastolic blood pressure greater than 80mm Hg these patients have been categorized due to its severity as Stage#1hypertension and Stage#2hypertension, it has been found that 77 patients with this range of diastolic blood pressure out of 79 have been cured with aspirin treatment, it means that effectiveness of aspirin increases with the increase in diastolic blood pressure and aspirin can control the greater rise of diastolic pressure in better way.

CONCLUSION

From this data it can be seen that the relative risk is favorable for aspirin therapy at all levels of diastolic pressure. It could be argued that the first two diastolic levels are more successful than the third levels, namely over 80mmHg. Again this may be possible to explain as these patients have usually had cardiovascular disease for a longer period of time and the reversal of long standing problems may be simply too great for the aspirin to overcome. After observing such improvement these patients were followed up for the next 30 days and after that aspirin is suggested on a regular basis and they were advised to continue use low dose of aspirin.

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