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Research Article

THE EFFECTIVENESS OF ASPIRIN WITH REGARD TO THE AGE OF THE PERSONS SUFFERING FROM CORONARY HEART DISEASE.

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ABSTRACT:

The present invention is related to the effectiveness of aspirin with age of person suffering from coronary heart disease. One of major cause which was observed in selected groups of patients was smoking. The age group distribution with persons who were selected for aspirin treatment who were actually has coronary heart diseases. A good comparison was established between aspirin treatment and before aspirin treatment in all five groups of patients which were divided on basis of their ages. The risk factor which is associated with such kind of treatment was also considered. Over all it has been proved that aspirin has been effective for the majority of the age groups studied, all of whom had at the beginning of the study, coronary heart disease. Clearly, aspirin benefited 110 patients in the trial. For the remaining 40, in the age group 65-69 the results were not favorable for the use of aspirin.

Key Words: Systolic blood pressure, hypertension, coronary heart disease, aspirin

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INTRODUCTION

In coronary heart diseases, the coronary arteries become narrowed due to deposition of fats and this condition is known as atherosclerosis. The deposited fats on inner wall of arteries shrink the passage of flow of blood to heart muscles, this results in severe pain, is known as angina.Apirin has been recommended for patients who have a history of heart problems. [1]

If these plagues block complete flow in vessels that heart muscles can not get sufficient supply of oxygen which cause death of hearty muscle cells and leads to heart attack.

In these cases it has been considered that aspirin should be taken because of its ability to effectively inhibit platelets' ability to generate thromboxane.It was also observed that only small amount of aspirin was sufficient for performing its activity of anticoagulation.[2]

In some of history of patients it was also noted that aspirin was also recommended in case of angioplasty and coronary by pass grafted patients. The dose which was selected in these cases was found to be 75mg and 100mg of aspirin daily.

It has been suggested that risk of cardiovascular complications can be minimized by taking low doses of aspirin and diet rich with vegetables, fruits and grains. [3]

The aspirin was also found effective treatment for patients who are actually having or recently have transient ischemic attack. The best suggested effective dose of aspirin to this type of patient can be between 81mg to 325 mg per day. [4]

The present investigation was based on effectiveness of aspirin in various age groups of patients suffering coronary heart diseases. This research was done in chest hospital Kuwait where most of people are victim of coronary heart diseases. This research will bring great advancement in combating against heart disease with simple remedy of aspirin where as effective dose of aspirin was found to be 75mg.

METHODOLOGY

All male patients who were admitted to the Chest Hospital in Kuwait at the time at which this trial was being undertaken were screened for cardiovascular disease. In the time period of this screening, there were found to be 197 patients who were admitted to the hospital and who were smokers, and also had coronary heart disease of the severity required in the trial.

When these 197 patients were examined in greater detail, including: their smoking behavior, systolic/diastolic pressures, cholesterol levels and coagulation factor levels, it was found that of the 197 patients only 150 patient were considered to be suitable for treatment with aspirin, as the other 43, although they had coronary heart diseases also had many other complicating factors such as a great potential to bleed if taking aspirin and they were also receiving drug therapies for their hypertension which it was thought may have made the analysis of the effects of aspirin extremely difficult to determine. However this group of non aspirin treated patients acted as a 'control' for the aspirin treated group as they did not receive the aspirin but did, as for the aspirin treated group receive their usually medications for their existing diseases.

This meant they acted as a control against which the pharmacological effects of aspirin could be compared with those who did receive the drug as this was the only difference between the groups. This is a major complicating factor as the therapies in both groups included drug classes such ACE inhibitors, calcium channel blockers and/or beta-blockers which, although treating their hypertension may actually lower the risk of recurrent myocardial infarction. For ethical reasons the patients could not be taken off their existing drugs despite the fact that this made interpretation of the results extremely complicated. Nevertheless, the 150 patients who actually took aspirin also continued on their existing medications so the two groups were comparable in the terms of not changing their exiting therapy. Simply, one group of patients suffering from coronary disease problems was compared to another group, the only additional factor in their treatment being the inclusion of low dose aspirin therapy.

Grouping of patients:

To facilitate analysis it was necessary to put the patients into different age groups as it would have been 'unfair' to compare the effects of aspirin in individuals who had been suffering their disease for 1 or 2 years as against those who had been suffering it for 30+ years.

The 150 patients were first of all divided into 'age range groups' in order to see if aspirin exerted an age related effect. The number in the first age range 45-49 years out of a total number of screened coronary disease patients (n=197) was 28. However of these, only 14 patients were judged to be suitable for the trial. Similarly, 33 patients who belonged to age group 50-54 years were found on admission to the hospital to be suffering from coronary problems but of these only 26 patients of this group were actually included in the aspirin trial. Likewise 34 patients of age group 55 to 59 years were treated with aspirin out of a total number of 37 patients of this age group who had coronary heart disease. For patients with ages between 60-64 years, only 36 patients out of 55 coronary heart patients were treated with aspirin. The last age group of patients were those in the 65-69 years group and of the 44 patients who were detected on admission the vast majority i.e. 40 patients, were suitable for treatment with aspirin and therefore included in this trial.

It depicts the Bar graphs which were selected for making good comparison between number of cases studied with aspirin treatment and before aspirin treatment in five age groups who were suffering coronary heart diseases. This correlation revealed that lesser proportion of patients was given aspirin treatment who was ideally meeting the criteria of research led towards significant results.. In this figure the pink colored bar shows the number of patients in five age groups at time they were admitted with coronary heart diseases before aspirin treatment and the blue colored bar for number of patients in five groups who actually received aspirin treatment (75mg/day)

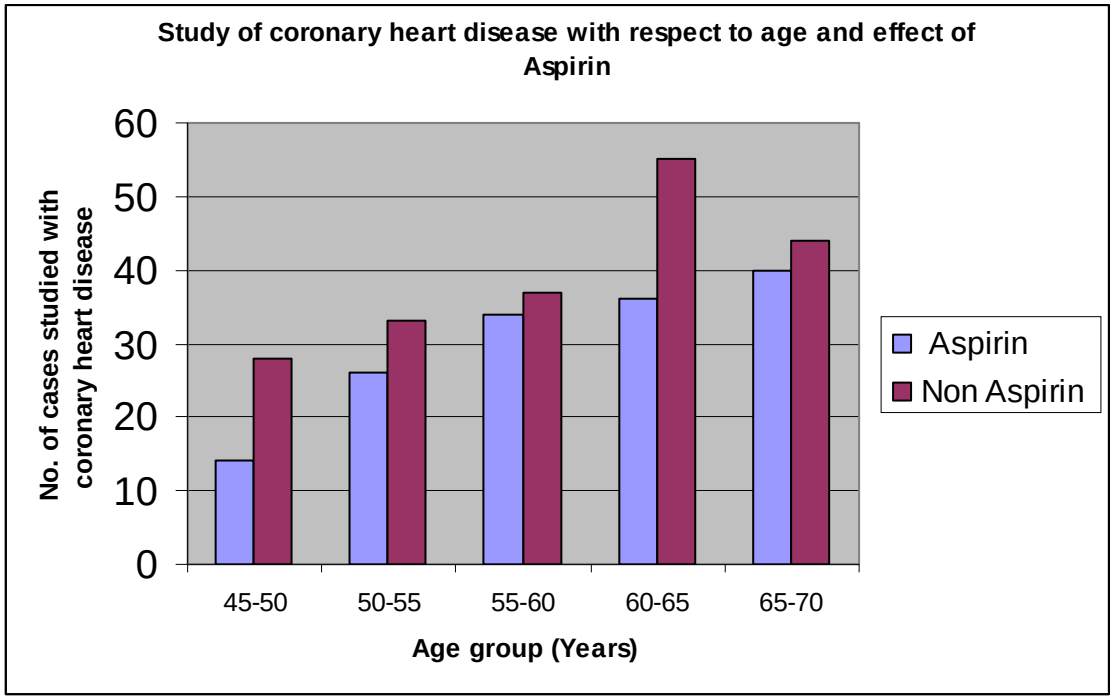

Figure 1. The division of the total number of patients detected with coronary heart disease with respect to their age groups and those adjusted suitable treatment with aspirin is shown in table 1

RESULTS

The use of this table attempts to show the effectiveness of aspirin in all the different age related groups. To show the effectiveness of the aspirin therapy the use of relative risk has been used. Briefly, in this experiment relative risk is the probability of an event occurring in the aspirin group as compared to the non aspirin treated group. This is the classical use of such an analysis where the risk of developing coronary disease in those receiving aspirin is compared against those receiving the non aspirin treatment. A relative risk of 1 indicates there is no difference between the two groups. A value less than 1 means the event is less likely to occur in the treated group rather than the non aspirin treated group. A value greater than 1 indicates that the event is more likely to occur in the treated group rather than the non aspirin group.

Figure 2. relative risk factor with respct to age on treatment with Aspirin

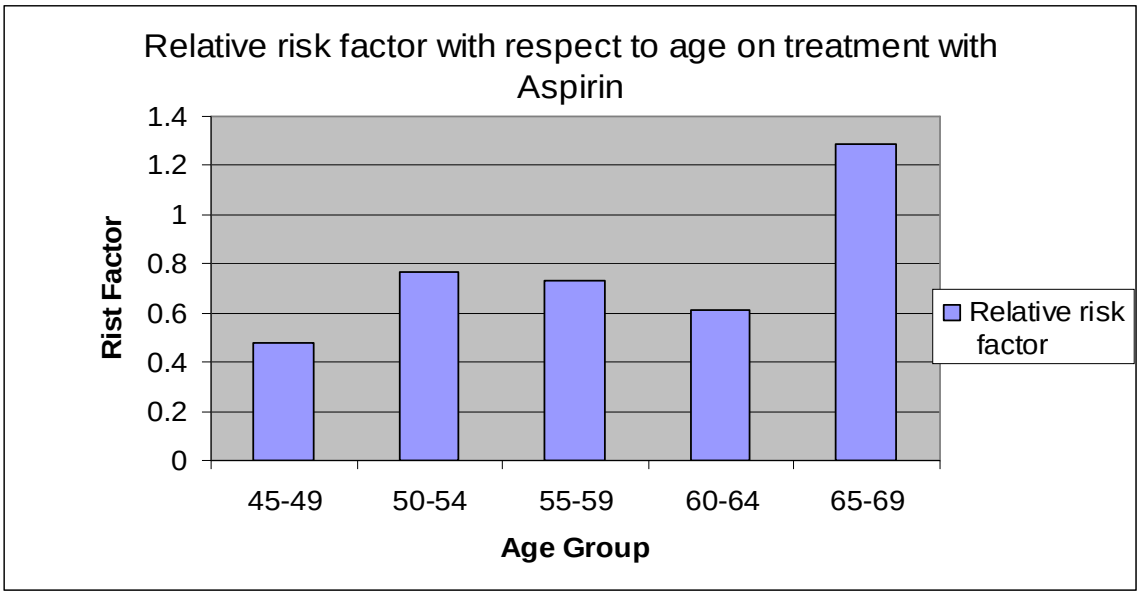

Table 1. Age group distribution and the number of patients selected to receive aspirin involved in a study on its cardiovascular effects in patients with coronary heart disease. Please note that the number of patients who received non aspirin treated group is calculated by subtracting column three from column two. The relative risk of the treatment is shown in the final column.

Age group (years)	Total patient number -before selection for aspirin treatment (n=197)	Selected for Aspirin treatment (n=150)	Relative risk (to show the benefit of aspirin treatment as compared with non-aspirin

45-49	28	14	0.48
50-54	33	26	0.77
55-59	37	34	0.73
60-64	55	36	0.61
65-69	44	40	1.29

Examination of the relative risk values in Table 1 shows some interesting findings. In the first four groups the risk-ratios are all less than 1. This indicates that the treatment with aspirin has reduced the risk of a patient suffering complications of their coronary heart disease. The final age group 65-69 years - with a risk ratio value of 1.29 shows the aspirin treatment has in fact made the condition somewhat worse.

These results show that aspirin has been effective for the majority of the age groups studied, all of whom had at the beginning of the study, coronary heart disease. Clearly, aspirin benefited 110 patients in the trial. For the remaining 40, in the age group 65-69 the results were not favorable for the use of aspirin. It is interesting to speculate and give possible reasons for lack of aspirin's effect in the final group.

DISCUSSION

International statistics provide ample evidence that the number of patients who have problems due to coronary heart disease increases with age. This is said to be the major disease of the century in the majority of countries around the world, including Arabic nations. This means that within any group of males as their age increases the chances of coronary heart diseases also increases. Consequently, the aspirin treatment may reflect the finding that in the age group 65-69, where the coronary problems would be expected to be at a high level, the use of aspirin which provided a relative risk of 1.29, perhaps reflects the inability of aspirin to reverse a condition which had gone untreated for many years prior to the trial. This is not a failure of the aspirin to bring about changes but rather a reflection that changes to the coronary arteries and indeed other vascular components in the patient may have reached a level where reversing the future potential for increased risk is simply impossible.

CONCLUSION

These results show the effectiveness of Aspirin which has been effective for various age groups who have been suffered from coronary heart diseases. It has found that greater number of old people have been benefited with aspirin treatment. As the number of patients who having coronary heart diseases, have increased with increase in age' which reflected that chances of coronary heart diseases increases with age and the aspirin treatment revealed that greater number of patients belong to 65-69 have been successfully treated. By this division of patients with respect to there age it become easy to observe the effectiveness of aspirin at various age levels. The main conclusion is that aspirin should be started as early as possible in younger age groups to avoid such a problem of the lack of a suitable response occurring in later age.

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