CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.3585320

Available online at: http://www.iajps.com Research Article

ANALYSIS OF ROLE OF STATINS THERAPY ON CARDIAC PATIENTS WITH KIDNEY DISEASE

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Abstract:

The main objective of our study is to find the role statins therapy on cardiac patients with different kidney disease in Asian environment. This cross sectional study was conducted at Iqra Medical complex, Lahore during March 2019 to October 2019. For this study the data was collected from 100 patients who was suffering from cardiovascular disease and kidney disease. For this purpose we make two groups of study. The analysis of collected data showed that statin has some positive effects on CVD and CKD. These studies did not demonstrate any negative benefits of statin therapy. The management of lipids in people with CKD has been an area of intense debate over recent years, particularly in those with more advanced kidney dysfunction. There is significant evidence showing that patients with CKD benefit from statin therapy with improvement of CV outcomes. However, in patients with stage 5 CKD or on dialysis, the benefits of statin therapy on CV outcomes are less certain, and further large RCTs may be needed to clarify this matter.

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Please cite this article in press Sulaman Ghafoor et al., ***Analysis Of Role Of Statins Therapy On Cardiac Patients With Kidney Disease .,*** *Indo Am. J. P. Sci, 2019; 06(12).*

INTRODUCTION:

Chronic kidney disease (CKD) is an important cause of death worldwide, affecting more than 10% of the population. One of the risk factors for developing CKD and worsening renal outcomes is renovascular disease. One of the proposed mechanisms for progressive CKD in patients with renovascular disease is endothelial dysfunction, oxidative stress, and systemic inflammation of the glomerular capillary wall. Chronic kidney disease (CKD) is a major public health problem. Cardiovascular disease (CVD) keeps on being the leading cause of morbidity and mortality among individuals with CKD around the world, with rates of cardiovascular occasions and mortality reliably expanding as kidney work decays. Dialysis patients have death rates up to 40-crease higher than the overall public, with CVD being in charge of up to half of these passing.[1] Patients with CKD have higher commonness of various hazard factors for CVD, including lipid variations from the norm, hypertension, stoutness, and diabetes.

Statins are outstanding to reduce cardiovascular (CV) occasions and mortality in patients with coronary supply route disease.[2]The fundamental impact of the statins is to bring down low-thickness lipoprotein cholesterol (LDL-C). Be that as it may, statins additionally apply critical pleiotropic impacts, including calming and antithrombotic activities, and also change of endothelial capacity.

A few investigations have demonstrated the advantages of statins in patients with coronary illness (CHD).[3] Statins act by hindering the catalyst 3-hydroxy-3-methylglutaryl coenzyme A reductase, which catalyzes the rate-restricting advance in anew cholesterol blend[4]. There is evidence that statins may improve renal function and lower proteinuria in many prospective cohort studies, randomized-control trials and meta-analyses[5]. This could be due to statin's effects of decreased inflammation and improvement of endothelial function. However, previous meta-analyses on the effect of statins on renal outcomes were not specifically done in CKD population[6]. One meta-analysis analyzed only the renal outcome at the end of treatment and did not examine change in renal function from baseline. Thus, the impact of statins on change in renal function in CKD patients is still unclear[7].

Objectives of the study

The main objective of our study is to find the role statins therapy on cardiac patients with different kidney disease in Asian environment

METHODOLOGY OF THE STUDY:

This cross sectional study was conducted at Iqra Medical complex, Lahore during March 2019 to October 2019. For this study the data was collected from 100 patients who was suffering from cardiovascular disease and kidney disease. For this purpose we make two groups of study. One group was control group and the other group was suffering from CVD and kidney problems. The second group was also get the statin therapy for the cure of their problem but the control group was not get any kind of therapy they just get normal medication. Then we collect the socio economic status and therapy status of both groups. Then we analyze the data and find that either statin therapy is helpful for patients or not.

Statistical analysis

Student's t-test was performed to evaluate the differences in roughness between groups. Two-way ANOVA was performed to study the contributions. A chi-square test was used to examine the difference in the distribution of the fracture modes (SPSS 19.0 for Windows, SPSS Inc., USA).

RESULTS:

The data was collected for further analysis. Table 01 of the data shows the basic values of control group and patients. It shows the BMI, age, Total cholesterol level and other basic values. We can find that cholesterol level is high in patients as compared to normal values. We also shows the comparison of statin group and normal group.

Table 01: General values of Control group and diseased group

Variable	Diseases Group	Control Group	t Value	*p* Value
Age（Year）	56.56±8.46	53.64±8.36	1.716	0.081
BMI（kg/m2）	24.31±2.26	23.37±2.09	2.195	0.031
SBP（mmHg）	140.36±15.70	116.53±13.46	8.248	0.000
DBP（mmHg）	87.94±10.69	75.81±9.94	5.967	0.000
PP（mmHg）	52.42±12.87	40.72±8.74	5.426	0.000
FBG（mmol/）	5.12±0.65	5.06±0.49	1.764	0.081
TG（mmol/L）	1.74±0.75	1.69±0.86	1.838	0.071
TC（mmol/L）	4.95±0.76	4.88±0.82	1.712	0.090
HDL-	1.30±0.43	1.31±0.56	1.717	0.089
LDL-C	3.46±0.58	3.38±0.66	1.139	0.266

Tale 02 shows the values of analysis of statin therapy in patients. It shows the comparison between two groups on the basis of functional values.

Table 02: Comparison between two groups in structural and functional parameters

Group	IMT (μm)	CC (mm^2/KPa)	α	β
CVD Group	694.88±77.63	0.89±0.13	5.68±1.23	11.25±1.01
Control Group	586.87±62.12	0.96±0.08	4.77±0.62	9.24±1.24
T value	7.818	-3.115	4.712	9.004
P value	0.000	0.002	0.000	0.000

DISCUSSION:

The management of lipids in people with CKD has been an area of intense debate over recent years, particularly in those with more advanced kidney dysfunction. This large quantitative survey, incorporating 31 trials with in excess of 48 000 people, proposes that treatment with statin reduces the danger of cardiovascular occasions crosswise over various levels of kidney work.[7] Major cardiovascular occasions are reduced by 23%, incorporating a 22% lessening in coronary occasions, and 9% decrease in cardiovascular or all-cause passing. No noteworthy impact was seen on the danger of kidney disappointment, or on the danger of unfriendly occasions including disease mortality. End focuses for the assessment of the impact of statin treatment on renal capacity in patients with CKD have included protein discharge and movement of CKD.[8]

Starting examination indicated distinctive rates of expanded protein discharge with different statins. Be that as it may, clinical investigations that particularly assessed the impact of statin treatment on protein discharge yielded clashing outcomes, with some exhibiting a lessening in proteinuria and others demonstrating no impact. There are clashing information concerning the impact of statins on movement of CKD.[9]

A few investigations have recommended that statins may moderate the rate of decrease in renal capacity in patients with mellow to direct renal brokenness, though others have discovered that statins were not better than fake treatment and common care[10].

CONCLUSION:

Our findings clearly indicated that patients with CKD are at high risk for CVD. Moreover, there is significant evidence showing that patients with CKD benefit from statin therapy with improvement of CV outcomes. However, in patients with stage 5 CKD or on dialysis, the benefits of statin therapy on CV outcomes are less certain, and further large RCTs may be needed to clarify this matter.

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