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ORIGINAL ARTICLE

Association of coronary artery disease and psoriasis

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ABSTRACT:

Background: The present study was conducted with the aim of assessing the correlation of coronary artery disease and psoriasis. **Materials & methods:** A total of 30 psoriasis patients were enrolled. Complete demographic and clinical details of all the patients was obtained. Along with them, a total of 30 age and gender matched healthy controls were also taken. Brief medical history of all the patients was obtained. ECHO and ECG findings were recorded. Correlation of psoriasis and coronary artery disease was evaluated. All the results were recorded and analyzed using SPSS software. Chi-square test was used for evaluation of results. **Results:** Among the patients of the psoriasis group and control group, coronary artery disease was seen in 64 percent and 16 percent of the patients respectively. Significantly higher incidence of coronary artery disease was seen among psoriasis patients. **Conclusion:** Psoriasis patients appear to be at higher risk for development of coronary artery disease.

Key words: Coronary artery disease, Psoriasis

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INTRODUCTION

Psoriasis is a chronic inflammatory disease that affects approximately 2% of the population. There is evidence that psoriasis is associated with conventional cardiovascular risk factors, including hypertension, diabetes mellitus (DM), obesity, smoking and hyperlipidaemia and that this disease, like other type 1 helper T-cell (Th1)-driven inflammatory disorders such as rheumatoid arthritis and systemic lupus erythromatosus, is an independent risk factor for atherothrombotic disease. Psoriasis and atherosclerosis are both characterized by Th1 and T helper type 17 (Th17) activation and reduced T regulatory cell (Treg) function, and there are striking similarities between the immunoinflammatory mechanisms involved in these two diseases. Psoriasis has also been associated with increased all-cause mortality and cardiovascular death and with subclinical markers of atherosclerosis. Furthermore, in patients with psoriasis, systemic anti-inflammatory therapy with methotrexate may reduce the incidence of cardiovascular disease and tumour necrosis factor-α inhibitors can reduce endothelial cell activation and circulating levels of inflammatory markers including C-reactive protein.[1- 3]

The possible effects of chronic inflammatory diseases on cardiovascular disease are of great importance to all physicians.An increased prevalence of cardiovascular disease has already been shown in other diseases,such as rheumatoid arthritis,where there is systemic inflammation.1Some studies have also shown increased risk for cardiovascular mortality among patients requiring inpatient treatment for psoriasis. A separate prospective study demonstrated an increased relative risk for myocardial infarction compared to healthy controls;this increased risk was greater in younger patients with mild or severe psoriasis,compared to older patients with similar severity of disease.The increased risk may be explained by the role of inflammatory processes in the development of atherosclerosis.[4- 7] Hence; the present study was conducted with the aim of assessing the correlation of coronary artery disease and psoriasis.

MATERIALS & METHODS

The present study was conducted with the aim of assessing the correlation of coronary artery disease and psoriasis. A total of 30 psoriasis patients were enrolled. Complete demographic and clinical details of all the patients was obtained. Along with them, a total of 30 age and gender matched healthy controls were also taken. Brief medical history of all the patients was obtained. ECHO and ECG findings were recorded. Correlation of psoriasis and coronary artery disease was evaluated. All the results were recorded and analyzed using SPSS software. Chi-square test was used for evaluation of results.

RESULTS

Mean age of the patients of the psoriasis group and control group was 43.5 years and 44.8 years respectively. 72 percent of the patients of the study group and 64 percent of the patients of the control group were males. Among the patients of the psoriasis group and control group, coronary artery disease was seen in 64 percent and 16 percent of the patients respectively. Significantly higher incidence of coronary artery disease was seen among psoriasis patients.

Table 1: Demographic data

Variable	Psoriasis group		Control group	
	Number	Percentage	Number	Percentage
Males	18	72	16	64
Females	7	28	9	36
Mean age (years)	43.5		44.8	

Table 2: Correlation with coronary artery disease

Coronary artery disease	Psoriasis group		Control group	
	Number	Percentage	Number	Percentage
Present	16	64	4	16
Absent	9	36	21	84
Total	25	100	25	100
p- value	0.000 (Significant)			

DISCUSSION

In recognition of the increased prevalence of cardiovascular disease in persons with psoriasis, consensus statements have been published recognizing psoriasis as an emerging cardiac risk factor. Yet despite numerous studies linking psoriasis and cardiovascular disease, translating these studies into clinical guidelines has been hampered by the lack of accurate cardiovascular risk prediction in the psoriasis population.The importance of cardiovascular risk prediction is illustrated by the Adult Treatment Panel (ATP) III, which guides management of lipoprotein abnormalities in the United States.[7- 9]

Mean age of the patients of the psoriasis group and control group was 43.5 years and 44.8 years respectively. 72 percent of the patients of the study group and 64 percent of the patients of the control group were males.Nehal N. Mehta et al compared the risk of major adverse cardiac events between patients with psoriasis and the general population and estimated the attributable risk of severe psoriasis. They performed a cohort study in the General Practice Research Database. Severe psoriasis was defined as receiving a psoriasis diagnosis and systemic therapy (N=3603). Up to 4 patients without psoriasis were selected from the same practices and start dates for each patient with psoriasis (N=14,330). Severe psoriasis was a risk factor for major adverse cardiac events after adjusting for age, gender, diabetes, hypertension, tobacco use, and hyperlipidemia. After fully adjusted analysis, severe psoriasis conferred an additional 6.2% absolute risk of 10-year major adverse cardiac events. Severe psoriasis confers an additional 6.2% absolute risk of a 10-year rate of major adverse cardiac events compared with the general population. This potentially has important therapeutic implications for cardiovascular risk stratification and prevention in patients with severe psoriasis. Future prospective studies are needed to validate these findings.[10]

Among the patients of the psoriasis group and control group, coronary artery disease was seen in 64 percent and 16 percent of the patients respectively. Significantly higher incidence of coronary artery disease was seen among psoriasis patients.Alexa Boer Kimball et alcompared risks between patients and the general population, and to determine whether risk profiles are affected by disease severity.Data were pooled from patients with moderate to severe psoriasis (Psoriasis Area and Severity Index [PASI] score≥10) who were enrolled in Phase II (M02-528) or Phase III trials (Comparative Study of HUMIRA vs Methotrexate vs Placebo In PsOriasisPatieNts[CHAMPION], Randomized Controlled EValuation of Adalimumab Every Other Week Dosing in Moderate to Severe Psoriasis TriAL[REVEAL]) evaluating adalimumab. Risks of coronary heart disease and stroke were estimated using the Framingham risk score algorithm and a stroke risk function based on the Framingham Heart Study cohorts. To compare risks between patients with psoriasis and the general population, average population risks were imputed on the basis of age and gender.A total of 1591 patients were identified, including 1082 patients with PASI scores≥10 and ≤ 20 and 509 patients with PASI scores>20. Patients with PASI scores from 10 to 20 and PASI scores>20 had similar 10-year risks of coronary heart disease (12.3% and 12.2%; P=.49) and stroke (8.3% and 8.7%; P=.28). Compared with the general population, 10-year risks of patients with psoriasis were 28% greater for coronary heart disease (P<.001) and 11.8% greater for stroke (P=.02).Patients with moderate to severe psoriasis had increased risks of coronary heart disease and stroke compared with the general population.[11]

CONCLUSION

Psoriasis patients appear to be at higher risk for development of coronary artery disease.

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