



ORIGINAL RESEARCH PAPER

Dermatovenereology

A STUDY ON COMORBIDITIES IN PSORIASIS

KEY WORDS: psoriasis, comorbidity, dyslipidemia, metabolic syndrome

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ABSTRACT

Background: Psoriasis is associated with other systemic diseases called as comorbidity. Aim: To find out the comorbidities in psoriasis, its prevalence, relationship to age, sex, disease duration, type and severity.
Materials & methods: Descriptive study for 2 years in a tertiary care centre with 171 untreated psoriasis patients. Examination and investigations were done as per study protocol.
Observation & results: The prevalence of comorbidities in psoriasis is 72%. Dyslipidemia was the commonest and only major comorbidity in 10-20 years age, followed by hypertension, diabetes mellitus, metabolic syndrome, obesity, myocardial infarction. Statistically significant proportion of psoriatics with hypertension, diabetes mellitus, metabolic syndrome and myocardial infarction were aged above 40 years. Comorbidities can occur irrespective of gender, duration, type of psoriasis and severity. The diabetes in severe psoriasis alone is significant in this study.
Conclusion: Prevalence of comorbidities in psoriasis is high and its knowledge in people is lacking, hence screening is strongly recommended.

Introduction:

Psoriasis, the common papulosquamous disorder is nowadays associated with systemic manifestations(1). This occurrence of one or more disease with psoriasis is called as comorbidity(2).

Aim:

To find out the comorbidities in psoriasis, its prevalence, relationship to age, sex, duration of disease, psoriasis type and severity.

Materials and Methods:

Descriptive study for 2 years (October 2009 – September 2011) done in a tertiary care center. 171 untreated psoriasis cases proven clinically or by biopsy were included. Detailed history was taken, dermatological examination was done and type of psoriasis was assigned. PASI score was used to assess the severity.

Blood pressure, waist circumference at iliac crest level, height and weight to calculate Body mass index were recorded. Fasting blood sugar, lipid profile, ECG, USG abdomen were done. Five out of three of the components namely abdominal obesity, increased triglycerides, decreased HDL, BP > 130/85 mmHg, fasting glucose > 100 mg/dl to be present for diagnosing metabolic syndrome as per the NCEP ATP III guidelines used(3).

Observation and Results:

A total of 123 psoriatics had comorbidities in this study which constitutes 71.93%. One comorbidity was seen in 82 cases (47.95%), 2 comorbidities in 25 patients (14.62%) and more than 2 comorbidities in 16 patients (9.36%). Dyslipidemia (DYS) was the commonest observed major comorbidity followed by hypertension (HT), diabetes mellitus (DM), metabolic syndrome (MS), obesity (OB), myocardial infarction (MI) in descending order of frequency as shown in the table 1.

Table 1: Major comorbidities in psoriasis

Comorbidities	Number of cases		Percentage
	Total	Comorbidities	
Dyslipidemia	171	112	65.50%
Hypertension	171	26	15.20%
Diabetes mellitus	171	16	9.36%
Metabolic syndrome	171	15	8.77%
Obesity	171	11	6.43%
Myocardial infarction	171	8	4.68%

Age of patients with comorbidities varies from 10 to 70 years and comorbidities were noted irrespective of age as shown in the table 2.

Table 2: Age distribution of comorbidities

Age in Years	Number of Patients	Comorbidities	Percentage	
			Total	Comorbidities
1-10	5	2	DYS	40%
11-20	22	14	DYS	63.64%
21-30	30	19	DYS,HT,OB,DM	63.33%
31-40	35	26	DYS,HT,OB,DM,MS	74.29%
41-50	33	27	DYS,HT,OB,DM,MS,MI	81.82%
51-60	32	25	DYS,HT,OB,DM,MS,MI	78.13%
>60	14	10	DYS,HT,DM,MS,MI	90.91%

The occurrence of hypertension, diabetes, metabolic syndrome, myocardial infarction in psoriasis patients aged above 40 years was statistically significant with respective p-value of < 0.001, 0.0152, 0.001, 0.002 but obesity and dyslipidemia were not statistically significant with respect to age as shown in table 3 below.

Table 3: Age relationship of major comorbidities

Comorbidity	Upto 40 years of age (n=92)	Above 40 years of age (n=79)
Hypertension	2	24
Diabetes mellitus	4	12
Metabolic syndrome	2	13
Myocardial infarction	0	8
Dyslipidemia	57	55
Obesity	4	7

Comorbidities were seen in 74/107 (69.16%) males and 49/64(76.56%) females in this study. All the above mentioned comorbidities were noted and the occurrence with respect to gender is not statistically significant (p-value:0.2987).

Duration of psoriasis in patients having comorbidities varies from 10 days to 26 years. In those having psoriasis for upto 5 years 69.93% (100/143) had comorbidities and in those with disease above 5 years 82.14% (23/28) had comorbidities. The occurrence of comorbidities with respect to duration of disease has p-value 0.1887.

Detailed analysis of major comorbidities with respect to gender and duration of disease states they were prevalent in both gender irrespective of disease duration but it did not carry statistical significance.

Comorbidities were noted in all types of psoriasis as shown in table 4.

Table 4: Type of psoriasis and comorbidities

Type	Number of patients		Comorbidities in order of frequency	Percentage
	Total	Comorbidities		
Psoriasis vulgaris (PASI < 10)	40	26	DYS, HT, MS, DM, MI	65%
Psoriasis vulgaris (PASI > 10)	40	34	DYS, HT, DM, MS, OB, MI	85%
Palmoplantar psoriasis	35	26	DYS, HT, MS, DM, OB	74.29%
Erythrodermic psoriasis	20	9	DYS, DM, MI, OB, HT, MS	45%
Pustular psoriasis	14	11	DYS, HT, MS, DM, OB, MI	78.5%
Guttate psoriasis	22	17	DYS, OB	77.27%

Comorbidities were present in 70.21% (66/94 cases) of psoriatics with mild or moderate disease and in 74.02% (57/77 cases) of psoriatics with severe disease. This occurrence with respect to severity has p-value 0.5809. Diabetes mellitus in severe psoriasis (11/77 cases of severe psoriasis vs 5/94 cases of mild or moderate psoriasis) was statistically significant with p-value 0.0451 in this study but other morbidities were present in both groups.

Fatty liver disease was diagnosed in 30 males and 14 females in this study which constitutes 25.73% of total cases. Peripheral vascular disease was seen in 2 cases, depression in 1 patient in this study.

A total of 106 cases out of 171 were diagnosed to have comorbidities in this study for the first time. Only 9.94% (17) of patients were diagnosed to have comorbidities while presentation of whom 7 had detected to have comorbidities before psoriasis detection. Beta blockers and ACE inhibitors were prescribed for hypertension in 5 out of these 7 cases and these drugs were the cause of psoriasis in them. A total 27 cases gave history of comorbidities running in their family like hypertension, diabetes, myocardial infarction. But none of the patients were aware of dyslipidemia and metabolic syndrome which needs screening for detection. Further obesity may be considered as the normal physique by most and not the risk factor for major diseases.

Discussion:

The prevalence of comorbidities in psoriasis in this institution based study was 72%. The comorbidities that were present are dyslipidemia, hypertension, diabetes mellitus, metabolic syndrome, obesity, myocardial infarction, fatty liver disease, depression and peripheral vascular disease. Many population based epidemiological studies states statistically significant association of psoriasis with hypertension, dyslipidemia, diabetes mellitus and obesity (1). Other morbidities noted in this study were also reported by others (3,4). But studies regarding the exact prevalence of psoriasis and its comorbidities are lacking but the rate of detection of comorbidities in this study is high.

Dyslipidemia was the commonest comorbidity in this study and it is the only comorbidity in those aged 10-20 years. A study by M. Augustin et al., in Germany(5) supports dyslipidemia in children with psoriasis and this is reported for the first time in India. This can occur due to disease perse or changing life style in present days, which needs consideration. Statistically significant proportion of psoriatics having hypertension, diabetes mellitus, metabolic syndrome, myocardial infarction were aged above 40 years. A study by Giosondi et al., supports metabolic syndrome in psoriasis patients aged > 40 years, both gender irrespective of severity (6) as in our study. But dyslipidemia and obesity was prevalent irrespective of the age of the patient in this study.

Comorbidities were present irrespective of gender or duration of disease and were noted in all types of psoriasis even if it is mild or

severe in this study. For example 74% of mild palmoplantar psoriasis cases and 85% of severe plaque type psoriasis were having comorbidities. A study by Neimann et al.(7) says the occurrence of diabetes in severe psoriasis as noted in this study. Though few people are aware of diseases like hypertension, diabetes, myocardial infarction, the knowledge about dyslipidemia & metabolic syndrome are lacking and obesity is seen as physique than risk factor. Since the detection rate of comorbidities in psoriasis is high in this study screening of comorbidities and health education of people regarding risk factors and life style changes to prevent major morbidities is strongly recommended.

Conclusion:

Comorbidities in psoriasis are common in present era and psoriasis is becoming a systemic inflammatory disease. The major comorbidities are dyslipidemia, hypertension, diabetes mellitus, obesity, metabolic syndrome, myocardial infarction which had an impact on treatment of psoriasis. As dermatologists we should be aware of these since we are the first consultants for psoriasis patients most of the times and comorbidities can be screened at that point itself for better management and quality of life of psoriatics.

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