ORIGINAL RESEARCH PAPER

Volume-8 | Issue-4 | April-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

COMORBIDITIES IN PSORIASIS

Dermatology

Dr. Pravina Kathad MD DVL, Om Skin Clinic, Opp. SKIT College Jagatpura, Jaipur, Rajasthan.

Dr. Manish Pahadia* MD Physician, Assistant Professor, MGH, Jaipur, Rajasthan. *Correspoding Author

ABSTRACT

Background: Psoriasis is a very commonly encountered disorder by a dermatologist, nearly affecting 1 to 3% of population, worldwide. It is a chronic disfiguring disease influencing patient's physical and psychosocial life significantly.

Aim -Our study was performed to explore the link between psoriasis and the comorbidities associated with it.

Materials and methods: A total of 273 patients were studied from june 2010 to sept. 2012 between the age group from 1-80yrs. Complete physical examination and BP monitoring was done in all patients. Investigations were done which include CBC, ESR, Urine R&M, LFT, RFT, RBS, lipid profile, ASO titer, RA factor, CRP, S. Protein, biopsy, X-ray chest, X-ray joints and USG abdomen.

Conclusion: All patients with psoriasis should be monitored for associated co morbid conditions and knowledge of which can help us to reach new standards of care.

KEYWORDS

psoriasis, comorbidites

INTRODUCTION:

Psoriasis, the most prevalent autoimmune disease, is newly defined as a systemic disease. It is a non-contiguous, chronic, inflammatory, disfiguring and disabling disease. It is commonly affecting 1 to 3% of population, worldwide. Co-morbid conditions linked with psoriasis are associated with increasing rates of morbidity and mortality.

There is no universally accepted defination for the term comorbidity. Traditionally, comorbidity has been defined as a medical condition co existing with the primary disease either as current or a past condition. Comorbidities should be distinguished from diseases with a common immunologic pathogenesis or dermatosis strongly associated with specific (internal) disease(e.g: erythema nodosum and sarcoidosis or inflammatory bowel disease).

Common systemic co-morbidities associated with psoriasis include diabetes, hypertension, dyslipidemias, crohn's disease and metabolic syndrome[1,2]. Since the Psoriasis affect the quality of life, depression or anxiety are frequently associated. The relationship between psoriasis and co morbidities is likely linked to the underlying chronic inflammatory nature of psoriasis. Pro-inflammatory cytokines such as TNF-alpha and other factors like pro-inflammatory T- helper type I cytokines that are overproduced in patients with psoriasis likely contributes to the increased risk for development of metabolic syndrome[6] and also correlate with the severity of the disease.

1. It is hypothesies that proinflamatory cytokine contribute to obesity, dyslipidemias, atherogenesis, peripheral insulin resistance, type II diabetes, hypertension etc. such associations are supported by following obsevations.Sigle nucleotide polymorphism in the promotor regions of TNF alpha and IL 6 is associated with higher production of these cytokines in response to infections or intrinsic stimuli.
2. Adipose tissue has immune functions too. Adipocytes release adipocytokines or adipokines e.g. adiponectin, lectin, resistin, plasminogen activator inhibitor type 1 as well as TNF alpha resistin mediates insulin resistance.
3. TNF alpha and IL 6 induce insulin resistance, dyslipidemia and procoagulant effect. IL 6 causes increase c reactive protien levels and erythrocyte sedimentation rate(ESR). Elevated ESR in psoriasis and obesity may be predictor of coronary heart disease.
4. In psoriasis, increase level of angiotensin converting enzyme (ACE) , endothelin 1 and renin are seen. Angiotensin II is a vasoconstricter, degrades bradykinin (a vasodilator) and enhance level of plasminogen activator inhibitor- 1 thus promoting thrombotic state.
5. Smoking worsens psoriasis by slowing down activity of chytochrome p—450 -1A 1 isozyme. Smoking is also risk factor for coronary heart disease.
6. Most psoriasis with moderate to severe disease get depression wich developes into a vicious cycle with increased alcohol consumption, food intake and reduced physical activity, all aggravating the associated obesity and metabolic syndrome.
7. Systemic inflammation in psoriasis leads to endothelial dysfunction i.e. imbalance of vasoconstrictor and vasodilator factors e.g nitric oxide. TNF alpha release in psoriasis induce insulin resistance which in turn reduces the activity of insulin dependant endothelial NO synthetase ; however mitogen activated kinase e.g p38MAPK remains active and adhesion molecules and vasoconstrictors like endothelin 1 are synthesized. Increase endothelial level contribute to the pathogenesis of systemic and pulmonary hypertension.
8. PSORS8 locus of psoriasis overlaps with crohn's disease locus on the long arm of chromosome 16 which may explain the association between two disease. The possibility exsist that psoriasis and obesity may share common genetic allele (Image 1)

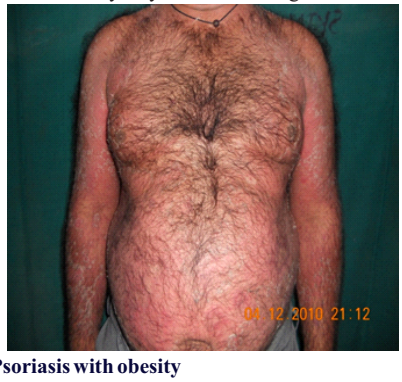

Image 1: Psoriasis with obesity

Treating psoriasis and the associated co-morbid conditions aggressively from the beginning will definitely improve the quality of life of the patient. Interestingly, diseases which share a similar immune-pathophysiology with psoriasis have been investigated as co-morbid outcomes.

MATERIALS AND METHODS:

It is a retrospective study. All patients presenting to our OPD and diagnosed as Psoriasis during the period between October 2010 to September 2012 were included in the study. The included age group in our study was from 1-80yrs. Both male and female sex were taken for the study.

Complete physical examination was done. Blood pressure monitoring was done in all patients. Investigations done were included CBC, ESR,

Urine R&M, LFT, RFT, Blood sugar, lipid profile, ECG, ASO titer, RA factor, CRP, S. Protein, biopsy, X-ray chest, X-ray joints and USG abdomen. Also parameters like weight and waist circumference should be recorded on first and subsequent visits.

RESULTS:

Out of total no. of patients studied, which was 273, Comorbidities were present in 70. (Table 1) Commonest age group to present with psoriasis and co-morbidities was 31-40 with male predominance, in a ratio of 1.6:1.

Studies have indicate that co-morbidities are more commonly associated with moderate to severe form of psoriasis. As far as the variants of psoriasis were concerned, maximum number of patients had chronic plaque psoriasis (78.5%). Variation in different variants of psoriasis across different age groups revealed that chronic plaque was being more common in 3rd and 4th decade of life.

TABLE 1: SYSTEMIC COMORBID CONDITION IN PSORIASIS

Systemic condition	No of Patients	%
Diabetes mellitus	11	15.7
Hypertension	21	30
DM & HT	10	14.28
Down syndrome	2	2.8
IHD	2	2.81
Renal Angiomyolipoma	1	1.40
Malignancy	1	1.40
Tuberculosis	3	4.28
Obesity	1	1.40
Hypercholesteremia	18	25
Total	70	100

As far as comorbidities are concerned, it was found in 25.6% cases in our study compare to 52% in thomas j et al8. Evaluating various comorbidities individually, a greater proportions was being occupied by Hypertension (30%) followed by Hyperlipidemia(25%) and Diabetes Mellitus (15.7%).(chart 1).

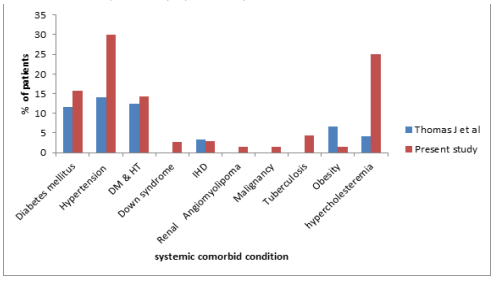

CHART 1: COMPARISON OF SYSTEMIC COMORBID CONDITION IN PSORIASIS WITH OTHER STUDY

As seen in above chart, most common systemic comorbid condition in both the studies was hypertention. Next most common comorbid condition in our study was hypercholesteremia compared to HT & DM in Thomas J et al[8].

Variation was also seen through various sexes. Hyperlipidemia, diabetes mellitus, HIV, malignancy (Image 2) were common in males while hypertension and obesity in females.

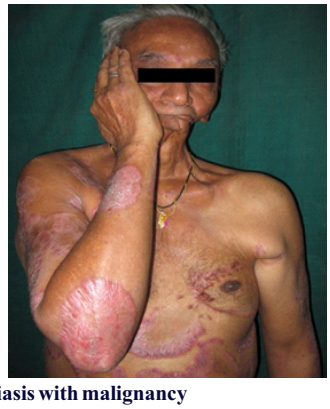

Image 2: Psoriasis with malignancy

Amongst the investigations done, the predominant four abnormal investigations correlating to comorbidity were seen in form of raised serum cholesterol, serum triglyceride and random blood sugar and abnormal usg abdomen.

DISCUSSION:

It is now mandatory to closely monitor psoriasis patients with attention to risk factors, including body weight, hypertension, hyperlipidemia and chronic heart disease. It is also necessary to use treatment regimens that not only provide early clearing of the involved skin but also provide persistently low inflammatory activity.

In our study, comorbid conditions were found in 25.6% out of 273 patients. Studies have indicated that co-morbidities are more commonly associated with moderate to severe form of psoriasis. Male predominance was observed in our study with male to female ratio of 1.6:1. This is comparable to a german study where cardiovascular risk and other comorbidities were observed in higher percentage (52%) of male patients.

In a survey of psoriasis patients hospitalized for treatment, Henseler and Christophers[5] investigated a list of associated disorders, both cutaneous and non cutaneous and a significant proportion of these patients had obesity, hypertension, cardiac disease, diabetes. In a study by Sommer et al[7]. psoriasis patients are most likely to be at risk for the development of signs of obesity, hypertension and diabetes, as well as dyslipidaemia and chronic heart disease which is comparable to our study in which Common comorbid conditions found were Hypertension (30%) followed by Hyperlipedemia(25%), Diabetes Mellitus (15.7%).

For effective management of psoriasis and related co-morbidities, an integrated approach targeting both cutaneous and systemic inflammation may be beneficial, and strategies to improve overall management of the patient should be encouraged to reduce the disease burden[3]. Although further data are needed now to closely monitor psoriasis patients with a focus on risk factors, including body weight, hypertension and hyperlipidaemia, in addition to chronic heart disease. It also appears necessary to adopt treatment regimens that not only provide early clearing of the involved skin but also provide persistently low inflammatory activity.

In the future we will have genetic markers[1,4] that will help us to indentify who is at risk of developing which co-morbidities and we will be able to intervene earlier and much more aggressively to prevent premature death.

CONCLUSIONS:

The presence of comorbidities in psoriasis is of interest for various reasons like understanding the pathogenesis of psoriasis as a systemic disease, prevention of more life threatening diseases, changes in the treatment plan as well as emphasizing its impact on the quality of life.

Most importantly, the recent studies reinforce the need to closely monitor patients with a focus on risk factors including body weight, hypertension, hyperlipidemia in adition to chronic heart disease. For effective management , an integrated approach targeting both the cutaneous and systemic inflammatoion may be beneficial. Further prospective studies are still needed to document psoriasis activity and severity as an independent risk factor for the various comorbidites and the role of psoriasis treatment alerting the risk of developing these serious morbidities. Dermatologist should be encouraged to screen the psoriasis patients for co morbidities, specially when disease is severe.

REFERENCES:

1. Christophers E. Comorbidities in psoriasis. Clin Dermatol 2007; 25: 529-34.
2. Das RP, Jain AK, Ramesh V. Current concepts in the pathogenesis of psoriasis. Indian J Dermatol 2009;54:7-12
3. Gulliver W. Long-term prognosis in patients with psoriasis. Br J Dermatol 2008; 159: 2-9.
4. Gulliver W, Tomi Z, Alaghehbandan R. Prevalence of cardiovascular risk factors and other comorbidities among psoriasis patients. J Am Acad Dermatol 2007; 56 (Suppl. 2): AB191.
5. Henseler T, Christophers E. Disease concomitance in psoriasis. J Am Acad Dermatol 1995; 32: 982–986.
6. Joshi R. Immunopathogenesis of psoriasis. Indian J Dermatol Venereol Leprol 2004;70(1):10-12
7. Sommer DM, Jenisch S, Suchan M et al. Increased prevalence of the metabolic syndrome in patients with moderate to severe psoriasis. Arch Dermatol Res 2006; 298: 321-8.
8. Thomas J. et al. co morbid conditions associated with psoriasis, e-Journal of the Indian Society of Teledermatology, 2010;(4): 1-5