papaa

< Pso Pscience >

April 2024: Issue Five

A bi-annual review digest of research associated with psoriasis and psoriatic arthritis

Welcome to this issue of *Pso Pscience* from PAPAA!

Over the past two-decades there has been a revolution in our understanding of psoriasis and psoriatic arthritis, both in terms of basic immunology, disease mechanisms and therapeutics.

This newsletter is designed to provide a summary of recently published research.

Of course, it's never a good time to have psoriasis or psoriatic arthritis, but if you have to have it, there has never been a better time!

Dr David Ashton MD PhD

Is psoriasis associated with specific occupations?

Could it be that some occupations are more strongly associated with psoriasis, either because they are more attractive to people with the condition, or because the occupation itself exacerbates or initiates the disease? There is actually relatively little in the scientific literature about this, apart from a Romanian study published in 2016.

In a basic observational study, researchers identified a total of 1236 individuals diagnosed with psoriasis in an outpatient clinic over a period of 8-years (2004-2011). The gender split was 669 (54.13%) men and 567 (45.87%) women. The occupational status of each participant was recorded as follows: retired persons; students; managers; engineers; professors; drivers; salespersons; economists; healthcare professionals; unskilled workers and a broad range of unemployed people. The proportion in each of these categories was remarkably similar.

The authors concluded that there was no evidence from this study that specific occupations are associated with psoriasis; psoriasis is a 'constitutional disease' that may be triggered by occupational factors.

Comment

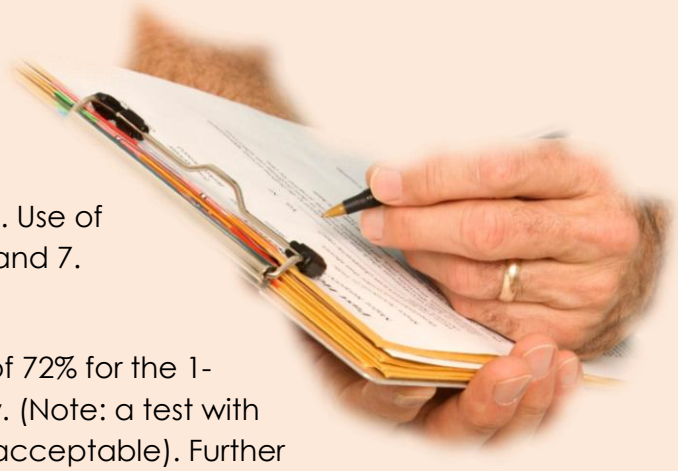
This is a simple study which suggests a lack of any association between psoriasis and specific occupations. The authors are correct in claiming that psoriasis may be triggered by occupational factors, but that is not a claim that can be made based on this study. To do that, they would have needed to assess the prevalence of psoriasis in the study participants before they took up specific occupations and then carry out a comprehensive follow-up. Unfortunately, it seems they did not ask the study participants whether they had psoriasis before they took up their employment.

Reference:

Chiriac, A., Solovan, C. (2016). Is Psoriasis Associated with Specific Occupations? In: Wiencke, M., Cacace, M., Fischer, S. (eds) Healthy at Work. Springer, Cham.

New risk-predictor for psoriatic arthritis

A new tool for predicting which patients with psoriasis will develop psoriatic arthritis (PsA) is showing promise, according to a summary of progress at the annual meeting of the 2023 Canadian Rheumatology Association. The predictive method, called PRESTO (Prediction of Psoriatic Arthritis Tool), is based on variables readily available in clinical practice. According to Dr Lihi Eder of the University of Toronto, the tool allows the risk of PsA to be easily predicted over a 1-year or 5-year time frame, using a simple calculator.



There are seven factors used in the calculation:

1. Morning stiffness; 2. PASI (Psoriasis Area and Severity Index) score; 3. Nail lesions; 4. FACIT (Functional Assessment of Chronic Illness Therapy) Fatigue Scale; 5. Use of systemic non-biologics or phototherapy; 6. Pain level, and 7. Duration of psoriasis.

In studies to date, PRESTO has a predictive accuracy of 72% for the 1-year time window and 75% for the 5-year time window. (Note: a test with a predictive accuracy of 70% or above is considered acceptable). Further validation studies in larger populations are currently underway.

Comment

The ability to predict which patients with psoriasis will go on develop PsA, is a hugely important step in the management of psoriasis. Those at highest risk, can be monitored more closely and treatment implemented at a much earlier stage. More work needs to be done on the model, but you can get a sense of how it works through this link: http://sharpmindtill120.x10host.com/PRESTO-PsA/rc5.php

Reference:

Canadian Rheumatology Association Meeting, Quebec City, Quebec, Canada, February 8-11, 2023 The Journal of Rheumatology June 2023, jrheum.2023-0216; DOI:

Under-diagnosis of psoriasis in UK general practice

There is compelling evidence to suggest that even a modest delay in the diagnosis of psoriasis may significant adverse consequences and sub-optimal long-term outcomes. In the case of psoriatic arthritis, even a delay ≥ 6-months is associated with deterioration in patients' quality of life in comparison with shorter periods[1].

In this important study from Manchester, researchers used two large electronic data sets from the UK Clinical Practice Research Datalink (CPRD) – Gold and Aurum[2]. The CPRD is one of the largest databases of longitudinal health records from primary care in the world. There were 17,320 people with psoriasis and 99,320 controls

included from CPRD Gold, and 11,442 people with psoriasis and 65,840 controls, extracted from CPRD Aurum.

The objective for the analysis of both data sets, was to identify an 'index date' for the date on which psoriasis was diagnosed and then to compare the history of those with psoriasis versus the controls in terms of the number of visits to the GP and the frequency of various diagnoses which might be confused with psoriasis. These included seborrhoeic dermatitis, various forms of eczema and some skin infections, including tinea corporis, candida and pityriasis rosea.

This is a large and complex study and so the analysis is also complex. However, the key points to note from both data sets are:

- Patients eventually diagnosed with psoriasis were much more likely to visit their GP in the time leading up to that diagnosis, than the controls.
- Patients with psoriasis were more likely to have been given a diagnosis of conditions which may be confused with psoriasis – including pityriasis rosea, eczema, seborrheic dermatitis, and tinea corporis, than those in the comparator group.
- Individuals with psoriasis were almost eight times more likely to be diagnosed with pityriasis rosea and twice as likely to be diagnosed with seborrheic dermatitis and eczema, within the year before their index date.

Comment

This is the first study to retrospectively analyse data collected from medical records to investigate primary care (GP) consultations, leading up to a diagnosis of psoriasis. The findings suggest that psoriasis is significantly misdiagnosed in primary care, being frequently mistaken for a range of other common skin conditions, especially pityriasis rosea and eczema. This raises serious questions as to the adequacy of GP training in dermatology and emphasises the need to improve the non-dermatologists' diagnostic skills. This could be achieved via specifically designed online training courses, along with increasing use of AI diagnostic tools.

References:

1. *Haroon M, Gallagher P, FitzGerald O. Diagnostic delay of more than 6 months contributes to poor radiographic and functional outcome in psoriatic arthritis. Ann Rheum Dis 74, 6, 1045–1050.*
2. *Abo-Tabik M, Parisi R, Morgan C, et al. Mapping opportunities for the earlier diagnosis of psoriasis in primary care settings in the UK: results from two matched case–control studies. British Journal of General Practice 2022; 72 (724): e834-e841*

The last word on vitamin D in psoriasis?

Questions regarding the role of Vitamin D in psoriasis, remain, with conflicting results from different studies. In this very large and recently (2024) published study[1] investigators sought to assess the association between lower serum 25-hydroxyvitamin D - 25(OH)D - levels and psoriasis in a population-based study. The secondary endpoint was to evaluate the possible effect modification of overweight/obesity.

The database for this study was derived from the ongoing Tromsø Study, in which repeated health surveys are used to gather data on residents of Tromsø, Norway. The study included 19,520 individuals aged 40 to 79 years in the general population, 52.3% of whom were women. Overall, 1,179 patients (6.0%) reported active psoriasis in the past 12 months, and 2088 patients (10.7%) reported lifetime psoriasis.

Patients with psoriasis tended to be older and had higher body mass index (BMI), hip and waist circumference, total body fat, and led a sedentary lifestyle, compared to those without psoriasis. Additionally, those with psoriasis smoked more frequently, as well as used a solarium, omega-3 capsules, and oral vitamin D supplements more often.

Overall, there was no difference in blood levels of 25(OH)D in patients with or without psoriasis. The investigators did, however, find that low levels of 25(OH)D in combination with a BMI greater than 27.5 kg/m^2, increased the risk for active psoriasis.

Comment

This is a large, well-conducted study which showed no significant relationship between levels of vitamin D and psoriasis. Importantly, these findings are entirely consistent with the authors previous study, which found that vitamin D supplementation conferred no significant benefit in psoriatic disease[2]. The observation of an association between body weight and psoriasis, has been shown in numerous studies. Maybe these two studies will prove to be the last word on vitamin D and psoriasis - or maybe not.

References:

1. *Jenssen M, Furberg AS, Jorde R, Wilsgaard T, Danielsen K. The association between serum 25-hydroxyvitamin D levels and psoriasis in a large population-based cohort, a cross-sectional analysis of The Tromsø Study 2015-16. Br J Dermatol. Published online November 28, 2023.*
2. *Jenssen M, Furberg AS, Jorde R et al. Effect of Vitamin D Supplementation on Psoriasis Severity in Patients with Lower-Range Serum 25-Hydroxyvitamin D Levels: A Randomized Clinical Trial. JAMA Dermatol 2023; 159:518-525.*