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

Welcome to issue three 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!

Maternal psoriasis and premature births

It is well known that women with certain inflammatory diseases, such as rheumatoid arthritis and inflammatory bowel disease, have an increased risk of giving birth to infants who are either small for gestational age (SGA) or preterm birth (PTB). However, few studies have examined this association in women with psoriasis, which is exactly what this very large Danish study set out to do[1].

Researchers used a nationwide database, collected between 2004-2017, containing information on 516,063 deliveries. From this, investigators identified 6282 (1.2%) with psoriasis who were then matched with 62,798 women without psoriasis (controls). PTB (premature) birth was defined as a gestation of <37 weeks and SGA, as a baby of birthweight < 10th percentile.

Results showed that the risk of SGA and PTB in women with psoriasis was similar to that in the matched controls.

Comment

This was a large and well conducted study which clearly showed that maternal psoriasis, did not increase the risk of giving birth to small-for-dates or premature infants. Whilst further studies are needed, these findings are obviously reassuring for women of childbearing age, who also have psoriasis.

Reference:

1. Bachdal Johansen C, Egeberg A et al Association of maternal psoriasis and small for gestational age or preterm birth: a nationwide matched cohort study in 69 080 singleton infants. Clin Exp Dermatol 2022; 47:1115-1123

In sickness and in health?

Previous studies have shown the adverse consequences of marital breakdown on health, but very few have investigated the impact of health on marital breakdown. What evidence is available, suggests that chronic illness may be a significant factor in marital dissolution. One study of 2,701 marriages, focussed on four main diseases – cancer, heart disease, lung disease and stroke – and found that the advent of illness in the wife, was linked to a greater risk of divorce, but onset of illness in the husband was not[1]. Whilst there is ample evidence that psoriasis can cause relationship problems, due to problems with self-esteem and intimacy, no studies until now have specifically investigated the possible impact of psoriasis on marital dissolution.

In this Italian study, researchers used a validated questionnaire - the Quality Marriage Index (QMI) – a 6-item measure of marital satisfaction[2]. Two groups of patients were recruited, 100 with moderate-to-severe plaque psoriasis and 101 healthy controls. Each patient enrolled in the study completed the QMI questionnaire. Analysis of the results showed that a significantly higher number of psoriatic patients were divorced than patients without psoriasis. Moreover - and unsurprisingly - patients with psoriasis had lower QMI scores than the healthy controls, suggesting lower marital satisfaction. The authors conclude that psoriasis may contribute to marital breakdown.

Comment

This is the first study to specifically investigate marital problems in patients with psoriasis. The results are hardly surprising and mirror what is already known about the effects of other chronic diseases on marital discord. The difficulty in qualitative studies of this kind is how one can be sure that the measure used (in this case QMI) actually measures what it claims to. Some may have serious doubts that a 6-item questionnaire could begin to capture what is most essential about any partnership. Nevertheless, this study is a timely reminder that psoriasis imposes a significant psychosocial burden on the lives of patients, including their personal relationships, to a degree comparable with other serious chronic conditions.

References:

1. Karraker A. Latham L. In Sickness and in Health? Physical Illness as a Risk Factor for Marital Dissolution in Later Life. J Health Soc Behav. 2015; 56:420-35

2. Altobrando A Di, VaraG et al. The impact of psoriasis on marriage. Ital J Dermatol Venerol 2022; 157:235-239

Dead Sea spa holidays

The Dead Sea, the deepest and most saline lake on earth, has been known since biblical times for its therapeutic properties. Situated between Jordan, Israel, and the West Bank, it has a salt content of 34.8% (sea water is around 35%) and very high concentrations of minerals such as sodium, magnesium and potassium. Together with dry air and low intensity UV light, these factors contribute to what is claimed to be an ideal climate for eczema and psoriasis sufferers and for those with various arthritic conditions. Unsurprisingly, the Dead Sea, the Sea of Galilee, and the hot springs of Ein Gedi on the Dead Sea's western shore, have become the location for a thriving health-tourism industry. Nowadays specialised travel companies offer packages to a variety of Health Spa Hotels and Medical Centres, providing what is sometimes referred to as "Dead Sea Climatotherapy (DSC)".

It's well known that DSC produces rapid improvements – or complete remission - in patients with psoriasis and other skin conditions. But the question is whether these benefits are sustained. In this small study, Danish researchers sought to determine both the efficacy and the duration of benefit of DSC, in 18 psoriatic patients who took part in a 4-week treatment programme in Ein Gedi in Israel, consisting of both sun exposure and sea bathing[1]. Measures of disease severity included the Psoriasis Area and Severity Index (PASI) and the 5-point Investigator's Global Assessment (IGA) Scale, a modified tool for evaluating plaque psoriasis severity in clinical trials.

Results showed that treatment had an immediate benefit, with patients experiencing an average 13.0-point reduction (88%) in PASI scores and 2.3 (76.7%) on the IGA Scale. Ten patients (55.6%) achieved complete clearance. At follow-up, the average time from treatment end to reappearance of visible skin symptoms was 93.8 days.

Comment

This is a very small study, but the results are entirely consistent with previous findings, which show that DSC is an effective treatment option for patients with psoriasis, improving both skin lesions and overall quality of life, with no adverse effects. Unfortunately, it also confirms that the observed benefits are short-lived – in this study the interval between end of treatment and recurrence of skin symptoms was 93.8 days (13.4 weeks). Other studies have shown similar remission durations. On the other hand, many will think a disease-free period of 3-months, or more is well worth the cost – especially if the treatment is part of a holiday!

Reference:

1. Emmanuel T, Lybæk D, et al. Effect of Dead Sea Climatotherapy on Psoriasis; A Prospective Cohort Study. Front Med (Lausanne) 2020; 7:83

Another milestone in drug therapy

In September 2022, the US Food and Drugs Administration (FDA) gave its approval for an exciting addition to the therapeutic options for the treatment of psoriasis[1]. It has not yet been approved for use in the UK but is currently being appraised by the National Institute for Health and Care Excellence (NICE), which is expected to publish its recommendations in March 2023.

Sotyktu™ (deucravacitinib), is a tyrosine kinase 2 (TKY2) inhibitor, developed for the treatment of adults with moderate-to-severe plaque psoriasis. Patients participating in clinical trials achieved the Psoriasis Area and Severity Index (PASI) 75, which means that after 16-weeks of treatment, they had at least 75% improvement in symptoms.

Normally, your immune system works to protect you from infections and illnesses. TYK2 is one of the molecules that plays a key role in signalling to the immune system and normally helps to create new skin cells only when they are needed. But in psoriasis, it seems that TKY2 becomes overactive, sending out too many signals, leading to an increase in inflammatory molecules called cytokines. Deucravacitinib selectively targets and inhibits the action of TYK2, thereby reducing the inflammatory response and improving the skin manifestations of psoriasis.

What is remarkable about Sotyktu™ is that it appears to have the efficacy of biologic drugs - which have to be given by injection or IV infusion - in a once-a-day tablet form. Moreover, the drug appears safe and well-tolerated.

Comment

This is another welcome milestone in the development of effective treatments for psoriasis, building on the growing understanding of what creates the inflammatory response in skin conditions like psoriasis and eczema. Since the advent of biological therapies, which have revolutionised the management of psoriasis, the hope was that something as effective, could be given in a once-a-day tablet form. Deucravacitinib is the fulfilment of that hope and is very likely to become the new standard of care for moderate-severe plaque psoriasis in adults. Whilst not currently available in the UK, it is likely to become so in the very near future.

Reference:

1. Hoy SM. Deucravacitinib: First Approval. Drugs 2022; 82:1671-1679

PAPAA is a UK patient-centred charity that supports and helps people affected by psoriasis and psoriatic arthritis.
For full details about PAPAA and how to contact us go to:
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