Professional Development Dermatology

UCD CHARLES INSTITUTE SEMINAR SERIES

UCD School of Medicine
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Charles Institute of Dermatology

Understanding eczema

Attendees at UCD's Charles Institute Seminar Series heard a presentation from epidemiologist ***Prof Sinéad Langan*** *on advances in atopic eczema that provide a deeper understanding of the condition*

The Charles Institute, Ireland's national dermatology research and education centre, played host to a range of guest speakers who covered a variety of topics ranging from skin cancer to psoriasis, among others. The series, which was sponsored by RELIFE (part of the A.Menarini group), was designed to provide expert advice from a range of distinguished national and international experts in their respective fields and was chaired by Prof Desmond Tobin, Full Professor of Dermatological Science at UCD School of Medicine and Director of the Charles Institute of Dermatology. The seminars were broadcast to attendees with a special interest in dermatology in other locations, who accessed the talks remotely via an audio-visual link.

Attendees at the series heard a presentation from Prof Sinéad Langan, Wellcome Senior Clinical Fellow and Professor of Clinical Epidemiology at the London School of Hygiene and Tropical Medicine and Honorary Consultant Dermatologist at St John's Institute of Dermatology, London. Prof Langan presented the seminar with an overview of research on atopic eczema (also known as atopic dermatitis or eczema), its prevalence and effect on a patient's quality of life.

She summarized recent research findings from a group using data from the Avon Longitudinal Study of Parents and Children (ALSPAC) showing different trajectories of eczema throughout life. This birth cohort study which involved 14,000 individuals recruited in utero with many followed-up into adolescence showed that different patterns of eczema emerged, she said. "Some people had transient, early-life eczema that went away," explained Prof Langan. "But there were also different patterns — people with later-onset eczema and other people with persisting eczema. These patterns, in addition to recent genetic findings and different responses to treatments suggest that there might be important subgroups of eczema. Researchers are interested in these subgroups because they want to find out if there are different endotypes or different biological mechanisms that might underlie those different subgroups."

Prof Langan and her colleagues, among others, are now working on efforts to more fully understand and refine these subgroups.

Comorbidities

As well as the psychological comorbidities that are associated with eczema, Prof Langan highlighted recent research suggesting associations between the condition and physical health outcomes. "In other inflammatory conditions, , e.g. in rheumatoid arthritis, increased risks of cardiovascular outcomes are reported."

"We conducted a study using data from UK general practice linked to hospitalization data, to see if eczema was associated with an increased risk of cardiovascular outcomes. We found that there was an association between severe and persistently active eczema and cardiovascular outcomes at a population level. "However, translating these risks into absolute numbers, we see that the absolute numbers are quite small —one extra event in 40,000 people comparing people with eczema to people without eczema. But should we be doing anything different from the standard cardiovascular screening? There is currently a lack of evidence to support doing additional screening for people with eczema."

Fractures

Prof Langan also presented data from a cohort study on fracture risk in patients with eczema. "Cross-sectional studies can be problematic, in that the timing of events can be tricky to determine," she told the attendees. A cohort study allows us to assess the timing of exposures and outcomes more accurately. Prof Langan presented findings from a matched cohort in the UK primary care population where people were followed-up over time to see if there was an incidence of major fractures, such as pelvic, wrist, spine and hip fractures, major fractures that could be associated with osteoporosis.

"We found, overall, approximately a 10 per cent increase in fracture risk in people with eczema, compared to those who did not have it," she said. "This risk was particularly relevant for hip, spine and pelvic fractures, compared to people that did not have eczema. When we looked at increasing eczema severity, we found that people with severe eczema had a much more significant increase in risk of fractures. This translated into double the risk of spinal fracture, 66 per cent in pelvic fractures, and a 50 per cent increased risk of hip fractures. But, Prof Langan emphasised, "The overall risk is still very low.' To put it into context, if you compared a group of 100,000 people with eczema with another group of 100,000 people without eczema, there would be 164 more fractures or breaks in the eczema group. Overall, then, the risk is still very small but higher than for the general population.

"These results may not be surprising to dermatologists," she continued. "If you have severe eczema, it may limit your ability to exercise because sweating irritates the skin. People with very severe eczema may also have an associated food allergy, leading to dietary restrictions. They may also have associated asthma and may have taken oral steroids — we did adjust for people ever having taken 20mg of steroids or greater per day, but we did not adjust for them having taken numerous smaller courses, which could build up and have an influence on fracture risk."

Prof Langan also pointed out that spinal fractures are perhaps more likely to be diagnosed in eczema patients because they see a physician regularly for prescriptions, "but that is unlikely to be the explanation for the findings for pelvic, wrist and hip fractures". Prof Langan and colleagues are looking into scrutinising more closely the association between different doses and durations of oral corticosteroid use and fracture risk, she told the attendees.

"There is much research work to be done in order to try to understand those associations," said Prof Langan.

"Sleep can still be important in people who have mild eczema and also in people who have inactive eczema and we need to explore what that means for long-term outcomes," she continued.

Prof Sinéad Langan

She also discussed paradigms around eczema and told the seminar: "Do people really 'grow out' of eczema? I think perhaps less so than we previously believed. Is it all one disease type? There is increasing evidence suggesting that there is a lot of heterogeneity and by looking at eczema as one disease — the 'yes/no' approach — we may limit our understanding of the condition," she said. "Do we need to be thinking beyond the skin itself? I think we do; we need to focus on how eczema affects people's mental health and to do more research to understand associations with other health outcomes.

There are many important questions to be answered, including: (1) "Can we identify and modify risks of physical and mental health outcomes? It would be great if we could identify people who may develop problems with their health associated with eczema. (2) Who should we be treating and can we target treatments better so that people do better in the long term, and does treating eczema improve these outcomes?

Prevalence

During a lively Q&A session following the presentation, Prof Tobin asked whether the prevalence of atopic eczema varied between different geographic UV latitudes, diets, environments, ancestry and other factors that may predispose people to the condition. "What's your feeling in the huge variations in incidence and severity across the planet?" Prof Tobin asked.

"It may be a combination of latitude, geographical region and urban versus rural location, as well as some of the factors you highlighted," replied Prof Langan. "What has been shown with the ISAAC [International Study of Asthma and Allergies in Children] study is that as countries become more westernised, the prevalence of eczema tends to increase, but then the prevalence of eczema seems to plateau."

Prof Tobin added that a patient's socioeconomic status, including lifestyle and diet, also seem to have an effect on incidence rates. Prof Langan commented: "The socioeconomic aspect is very interesting, because we know that atopic eczema has been associated with higher socioeconomic status, but some more recent data suggests that there may be a relationship between lower socioeconomic status and more severe eczema, so there are interesting aspects that we don't yet fully understand."

Speaking to the ***Medical Independent (MI)*** following her presentation, Prof Langan commented on other conditions that can sometimes be confused with atopic dermatitis. "These could include contact dermatitis, where people are allergic to things they are exposed to," she said. "Also, seborrheic dermatitis can mimic atopic dermatitis, although the distribution of the disease tends to be different.

Dr Langan was also asked how treatments have advanced during her career and the current treatment gaps that still exist. "There have been major advances," she told ***MI***. "The first new targeted biologic drug for severe eczema was introduced last October by the NHS. There are a lot of other biologic and small-molecule drugs in trials at present for the treatment of people with severe eczema, and there are major research efforts focused on improving treatments for people with eczema. There are also efforts to understand whether we can prevent people developing eczema."

RELIFE has had no input into the content of this article or series of seminar