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Janssen-Sponsored Satellite Symposium at the 30th EADV Virtual Congress 2021

The art of joint forces: crafting psoriatic arthritis care for dermatologists

This virtual satellite symposium will focus on the necessity for practicing dermatologists to understand the burden of psoriatic arthritis in patients with psoriasis. It will emphasize how important it is that dermatologists detect early signals of psoriatic arthritis in patients with psoriasis and also understand why targeting IL-23 directly can be effective in treating and potentially also preventing the development of psoriatic arthritis for their psoriasis patients

Janssen Immunology

PHARMACEUTICAL COMPANIES OF Johnson & Johnson

CP-255722

Research letter

A summary of the updated report on the incidence and epidemiological trends of keratinocyte cancers in the UK 2013–2018

DOI: 10.1111/bjd.20764

Dear Editor, Skin cancer is the most common cancer in the UK. Skin cancer referrals via the 2-week wait (urgent suspected cancer) pathway outnumber any other suspected malignancy.[1,2] The most common skin cancers are keratinocyte cancers (KCs), which represents basal cell carcinomas (BCCs) and cutaneous squamous cell carcinomas (cSCCs). Accurate KC incidence reporting is crucial for healthcare planning.[3]

Registration of KC is challenging owing to high numbers, multiplicity of cancers per person and various treatment modalities (not all surgical). The incidence of KC routinely reported in the UK is underestimated owing to the current United Kingdom and Ireland Association of Cancer Registries' rule recommending that only the first BCC and cSCC per person be registered; however, metachronous tumours are uniquely common to KC.[4] Previously, we validated the first per patient per annum (PPPA) technique where one tumour per patient per calendar year is counted to provide a better estimate of true tumour count, identifying 50% more tumours and estimating within 10% of the true tumour incidence without additional workload.[5]

We provide a summary of the updated report on epidemiological trends for KC in the UK from 2013 to 2018 with three additional years of data, improved Welsh data and lifetime incidence reporting (the full version is available online).[6] Data from the National Cancer Registration and Analysis Service (NCRAS) in England were combined with data from national cancer registries in Scotland, Northern Ireland and Wales from 2013 to 2018 to calculate counts and incidence rates.[7] Further analysis was performed with NCRAS data only, using robust and Poisson regression. Lifetime incidence of nonmelanoma skin cancer (NMSC) was calculated via the Cancer Research UK current probability lifetime risk calculator, using the first all-time NMSC tumour registered.[8,9] Lifetime incidence analysis is limited to NMSC by mortality data and therefore includes rare NMSCs (e.g. Merkel cell carcinoma).

In England, from 2013 to 2018, the average annual count of first PPPA tumours was 146 852 BCCs and 39 017 cSCCs. BCC European age-standardized rates (EASRs) increased by an average of 6·2 cancers per 100 000 person-years (PYs) [95% confidence interval (CI) −0·1 to 12.5], with a decline observed in first all-time BCCs of 1·2 cancers per 100 000 PYs (95% CI −4·6 to 2·3) (Figure 1), both of which were nonsignificant. The EASR of first PPPA cSCC increased on average by 2·8 cancers per 100 000 PYs (95% CI 1·7–4·0), with first all-time cSCC increasing by 1·4 cancers per 100 000 PYs (95% CI 0·7–2·2).

In Scotland, from 2013 to 2018, the average counts for first PPPA BCC and all cSCCs (all cSCCs are manually registered in Scotland) were 13 300 and 3344, respectively. BCC EASR increased on average by 4·1 cancers per 100 000 PYs, although this was nonsignificant (95% CI −2·9–11·0). On average, cSCC EASR increased by 1·4 cancers per 100 000 PYs (95% CI 0·6–2·2). In Northern Ireland, from 2013 to 2018, first PPPA BCC and cSCC average counts were 4423 and 1506, respectively. BCC EASR increased by an average of 5·9 cancers per 100 000 PYs (95% CI 1·4–10·5) and cSCC EASR increased by an average of 1·8 cancers per 100 000 PYs (95% CI 0·1–3·5). In Wales, from 2016 to 2018, first PPPA BCC and cSCC average counts were 10 516 and 3358, respectively. Welsh data for previous years were not available.

One in five (19·7%) people develop at least one BCC, cSCC or other NMSC in their lifetime in England, which equates to one in four (22·3%) men and one in six (17·5%) women. For those under the age of 50 years, we saw a reversal of the male : female ratio, with BCC significantly more common in women than in men (incidence rate ratio 1·37, 95% CI 1·34–1·41), as opposed to the trend seen in older patient groups and the whole population.

Incidence rates of first all-time and first PPPA BCC appear to plateau, whereas cSCC continues to increase significantly; however, more years of data are required to assess the trend. Similar findings showing a plateau in KC incidence rates have been predicted by Garbe *et al.* based on data from registries in Germany and Scotland.[10] This could be due to natural variation or changes in clinical practice and patient choice; greater awareness of end of life planning and prolonged waiting lists may encourage conservative management of these tumours, where appropriate, or perhaps there is greater skin cancer awareness and prevention in these populations.

The reversal of the male : female ratio in younger age groups is a matter of concern and may be due to lifestyle factors such as increased sunbathing among young women. With one in five persons developing NMSC in their lifetime, optimization of skin cancer research, prevention and clinical management is essential.

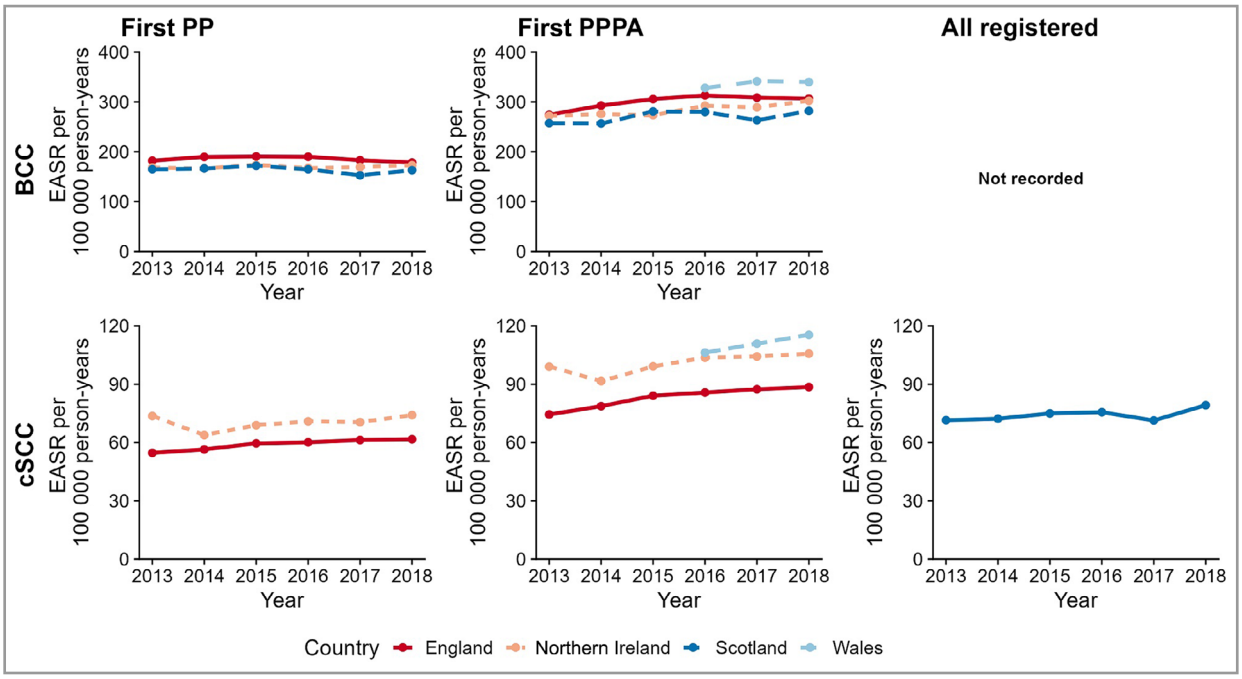

Figure 1 National incidence rate of basal cell carcinomas (BCCs) and cutaneous squamous cell carcinomas (cSCCs) based on three counting techniques. Column 1. National European age-standardized rate (EASR) of BCC (top) and cSCC (bottom) 2013–2018, using first per patient all-time (PP) technique. Column 2. National EASR of BCC and cSCC 2013–2018, using first per patient per annum (PPPA) technique. Welsh data cover the years 2016–2018. Column 3. National EASR of BCC and cSCC 2013–2018, using all registered tumours (all registered) technique. Dotted lines indicate 95% confidence intervals.

Acknowledgments: we are thankful for the support and comments provided by David S. Morrison. A full list of acknowledgments is available in File S1 (see Supporting Information).

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References

1 Public Health England National Cancer Registration Analysis Service. Cancer registration statistics: England 2018. Available at: https://www.gov.uk/government/statistics/cancer-registration-statistics-england-2018 (last accessed 2 June 2020).

2 NHS England. Waiting times for suspected and diagnosed cancer patients: 2019-20 Annual Report. Available at: https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2020/07/Cancer-Waiting-Times-Annual-Report-201920-Final.pdf (last accessed 14 October 2020).

3 Venables ZC, Autier P, Nijsten T *et al.* Nationwide incidence of metastatic cutaneous squamous cell carcinoma in England. *JAMA Dermatol* 2019; **155**:298–306.

4 Lomas A, Leonardi-Bee J, Bath-Hextall F. A systematic review of worldwide incidence of nonmelanoma skin cancer. *Br J Dermatol* 2012; **166**:1069–80.

5 Venables ZC, Nijsten T, Wong KF *et al.* Epidemiology of basal and cutaneous squamous cell carcinoma in the U.K. 2013–15: a cohort study. *Br J Dermatol* 2019; **181**:474–82.

6 Kwiatkowska M, Ahmed S, Ardern-Jones M *et al.* An updated report on the incidence and epidemiological trends of keratinocyte cancers in the United Kingdom 2013–2018. *Skin Health Dis* 2021; https://doi.org/10.1002/ski2.61.

7 Henson KE, Elliss-Brookes L, Coupland VH *et al.* Data resource profile: national cancer registration dataset in England. *Int J Epidemiol* 2020; **49**:16–16h.

8 Cancer Research UK. Our calculations explained. Available at: https://www.cancerresearchuk.org/health-professional/cancer-statistics/cancer-stats-explained/our-calculations-explained/ (last accessed 15 July 2020).

9 Sasieni PD, Shelton J, Ormiston-Smith N *et al.* What is the lifetime risk of developing cancer?: the effect of adjusting for multiple primaries. *Br J Cancer* 2011; **105**:460–5.

10 Garbe C, Keim U, Gandini S *et al.* Epidemiology of cutaneous melanoma and keratinocyte cancer in white populations 1943–2036. *Eur J Cancer* 2021; **152**:P18–25.

Funding sources: this research was funded in part by the Wellcome Trust [205039/Z/16/Z]. For the purpose of Open Access, the author

Conflicts of interest: S.A. and M.K. are employees of the British Association of Dermatologists (BAD). G.W.M.M. is current Academic Vice President of the BAD and Editor-in-Chief of *Skin Health and Disease*. T.O.B. is BAD president. M.R.A.-J. is chair of the BAD research subcommittee.

Data availability: data used in this study are openly available in a public repository that issues datasets with digital object identifiers.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

File S1 Full list of affiliations and acknowledgments.