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Natural history of lesions suspicious for basal cell carcinoma in older adults in Ikaria, Greece

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DEAR EDITOR

Basal cell carcinoma (BCC) is a disease of ageing, with the majority occurring in people 65 years or older.^{1,2} Incidence is rising, especially among those over 80 years of age.³ Most of these skin cancers are not dangerous: typically, they grow slowly and rarely metastasize or affect quality of life.⁴ The time-lag to benefit of treatment of asymptomatic BCC has not been estimated. Currently, the standard of care is to biopsy and treat most BCCs;⁵ as a result, many older patients get frequent procedures. Specifically, over 100 000 BCCs and cutaneous squamous cell carcinomas are treated annually in the U.S.A. in persons who die of unrelated causes within 1 year.^{6–8} The goal of this study was to observe the natural history of untreated lesions suspicious for BCC in older adults to better inform patients with limited life expectancies who are interested in noninterventional management options.

This pilot longitudinal cohort study on the island of Ikaria, Greece, whose population is known for its longevity, was designed with the input of a formal Research Ethics

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Conflicts of interest
None to declare.

Consultation as part of the University of California, San Francisco (UCSF) Clinical and Translational Science Institute (B.A.K.) and approved by the UCSF Institutional Review Board.

We recruited community-dwelling adults 80 years of age or older in four study visits between June 2014 and July 2016. We invited 90 individuals to participate; of these, 86 agreed (95.6%). In the first three study visits, E.L. or M.R.W. performed a waist-up skin examination and included the legs in those participants who reported lesions on their legs. In the fourth study visit, both E.L. and M.M.C. examined each available participant. We photographed all lesions suspicious for cancer and asked participants to describe any symptoms. We rated the level of clinical suspicion that lesions were BCCs: yes, clinically suspicious, or no. If yes, certainty on a 0–4 scale: 0 (< 20% chance), 1 (20–40% chance), 2 (41–60% chance), 3 (61–80% chance) or 4 (> 81% chance). Participants with suspicious lesions were told about the possibility of BCC, educated about the disease, and given options including biopsy with a general practitioner or referral to a dermatologist at no charge. If a participant declined further diagnostic workup, we followed their lesions clinically. Two trained research assistants measured the surface area of each photographed lesion with ImageJ v1.50 (National Institutes of Health). We analysed the overall change in size of lesions very clinically suspicious for BCC at baseline (ratings of 3 or 4, felt to be > 60% likely to be BCC) in mm² and as a percentage. We additionally calculated the rate of change in mm² and percentage change over the follow-up time. A sensitivity analysis was performed, including only lesions that were still felt to be clinically suspicious for BCC at the final study visit in 2016. We used Stata version 12.0.

Of 86 participants, 24 were lost to follow-up. For the remaining 62 patients, 35 (56.5%) were female, the mean age at enrolment was 89.0 years (SD 5.4 years), and the mean follow-up time was 17.7 months (SD 6.4 months). These 62 patients had 39 lesions very clinically suspicious for BCC, which were followed for a mean of 15.8 months (SD 6.8 months).

Table 1 summarizes baseline and follow-up characteristics of the 39 lesions very clinically suspicious for BCC. Nineteen (48.7%) increased in size over follow-up, while 18 (46.2%) did not increase in size [including four (10.3%) that resolved] and two (5.1%) were excised. Overall (excluding excised lesions), the surface area changed at a rate of 2.5 mm²/month (SD 11.6 mm²/month) or 3.3%/month (SD 14.5%/month). Considering only those lesions that did increase in size, the mean increase in area was 8.3 mm²/month (SD 3.0 mm²/month) or 10.2%/month (SD 17.1%/month).

In this pilot study of the natural history of untreated lesions suspicious for BCC, we found that approximately half of the tumours that were clinically very suspicious for BCC increased in size over a mean follow-up time of 15.8 months. Overall, the average change in area was small (2.5 mm², or 3.3%, per month). However, there was significant heterogeneity in growth patterns: some lesions grew while others were unchanged or decreased in size over time. A small proportion of lesions clinically suspicious for BCC resolved. These findings are novel but need to be confirmed in larger, population-based, prospective studies. We hope that more information about the natural history of untreated lesions suspicious for BCC will ultimately improve the care of the increasing number of older persons with BCC.

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Table 1Follow-up characteristics of lesions very clinically suspicious for basal cell carcinoma^a, *n* = 62 patients

Item	Primary analysis	Sensitivity analysis: lesions that remained suspicious at re- evaluation
Number of lesions	39	20 ^b
Mean follow-up (months, SD)	15.8 (6.8)	18.4 (5.0)
Lesions that were symptomatic during any study visit, <i>n</i> (%)	15 (38.5%)	6 (30.0%)
Lesions that increased in size, <i>n</i> (%)	19 (48.7%)	12 (60.0%)
Lesions that did not increase in size, <i>n</i> (%)	18 (46.2%)	8 (40.0%)
Lesions that resolved , <i>n</i> (%) ^c	4 (10.3%)	NA
Lesions that were excised , <i>n</i> (%)	2 (5.1%)	0 (0%)
In all lesions	<i>n</i> = 39	<i>n</i> = 20
Mean total change in area, mm ² (SD)	8.6 (115.2)	26.0 (126.4)
Mean total change in area, % (SD)	27.9% (156.2%)	31.4% (138.4%)
Mean rate of change in area, mm ² /month (SD)	2.5 (11.6)	2.3 (9.4)
Mean rate of change in area, %/month (SD)	3.3% (14.5%)	2.6% (10.5%)
In lesions that increased in size	<i>n</i> = 19	<i>n</i> = 12
Mean total change in area (mm ² , SD)	68.7 (116.5)	68.1 (142.0)
Mean total change in area, % (SD)	103.8% (186.9%)	70.4% (168.7%)
Mean rate of change in area, mm ² /month (SD)	8.3 (3.0)	5.1 (11.0)
Mean rate of change in area, %/month (SD)	10.2% (17.1%)	5.25% (13.1%)

^aVery clinically suspicious – scored 3 or 4 the following scale: 0 (< 20% chance), 1 (20–40% chance), 2 (41–60% chance), 3 (61–80% chance), 4 (> 81% chance)

^b20 lesions remained suspicious out of 26 total lesions that were re-evaluated in 2016 (77%)

^cAlso included in Lesions that did not increase in size

NA, not applicable