Dear Editor, The standard of care for suspected cancer referrals in the National Health Service is 2 weeks from presentation to specialist review.¹ National hospital data have shown a 70–4% median reduction in 2-week wait (TWW) referrals for suspected cancer as a direct result of the COVID-19 pandemic and the national lockdown.² Colleagues from our institution reported a 56% reduction in TWW suspected skin cancer referrals in April 2020.³ This trend is reflected in our dermatopathology workload data. The number of suspected cancer referrals began to climb steadily once restrictions were relaxed.² Our dermatopathology workload normalized in September 2020.

In response to the COVID-19 pandemic, urgent guidance was issued by the British Association of Dermatologists and the British Society for Dermatological Surgery. It was recommended that clinicians should consider deferral of elective surgery for low-risk cancers.⁴ This retrospective cohort study aimed to assess the impact of the UK’s national lockdown on the distribution of the pathological tumour stage (pT stage) and the proportion of skin cancer cases with high-risk or poor prognostic pathological features in skin cancer excision specimens from our institution.

We obtained data from our laboratory reporting system at two timepoints: ‘prelockdown’ (October–December 2019) and ‘postlockdown’ (October–December 2020), when the dermatopathology workload had normalized. We assessed all cases coded as ‘basal cell carcinoma (BCC)’, ‘squamous cell carcinoma (SCC)’ or ‘melanoma’. We derived the pT stage and high-risk/adverse prognostic pathology data from excision specimens reported and staged according to guidelines issued by the Royal College of Pathologists.⁵⁻⁷

For BCC and SCC, high-risk pathological features included high-risk histological subtypes or growth patterns; poor differentiation; level of invasion beyond the subcutis; depth of invasion > 6 mm (BCC) or > 4 mm (SCC), perineural and lymphovascular invasion; and pT stage 2, 3 or 4.⁵,⁶ For malignant melanoma, pathological features that have proven poor prognostic value include ulceration, mitotic rate ≥ 1 mitotic figure per mm², perineural and lymphovascular invasion, satellite/microsatellite or in-transit metastases, and vertical growth phase.⁷

Clinical data regarding disease duration and/or duration from diagnosis to treatment were not obtained.

Our results and statistical methods are outlined in Table 1. The results showed that there was no statistically significant difference in the distribution of pathological T stage in all skin cancers between the prelockdown and postlockdown groups (BCC: P = 0.93; SCC: P = 0.64; malignant melanoma: P = 0.83).

There was no statistically significant difference in the median thickness of BCCs (P = 0.17), SCCs (P = 0.23) and melanomas (P = 0.83).

Prelockdown, the percentage of skin tumours showing any single high-risk or adverse prognostic feature was 51%, 30% and 42% for BCCs, SCC and melanomas, respectively. Postlockdown, the percentage of tumours showing any single high-risk or adverse prognostic feature was 46%, 38% and 42% for BCCs, SCCs, and melanomas respectively. There was no statistically significant difference in the proportions of skin tumours showing any single high-risk or adverse prognostic feature between the prelockdown and postlockdown groups: for BCC the difference in proportions was −0.05 (P = 0.29); for SCC it was 0.08 (P = 0.35); and for melanoma it was 0.00 (P = 1.00).

We demonstrated that the impact of the COVID-19 pandemic was not significant on the distribution of pT stage and on the proportion of tumours showing high-risk or poor prognostic pathological features in all skin cancers studied. The patients in the postlockdown group did not come to harm. These data are reassuring when counselling patients about treatment delays in relation to prognosis and may assist the planning of service resumption when faced with potential further surges in COVID-19 case numbers.

The limitations of this study include the generalizability of the findings. All areas of the UK experienced significant reductions in suspected cancer referrals; however, the rate of recovery has been variable.² This may be attributable to differences in access to health care and in health-seeking behaviours between regional cohorts.

It is known that most patients with nonmelanoma skin cancers tend to delay their presentation.⁸ The case numbers in the postlockdown group are not significantly above what would normally be expected. The rebound predicted by our colleagues does not appear to have happened at our centre within this study period.³ This postlockdown group likely represents a subpopulation of patients with skin cancer. It remains to be seen whether there is another group of patients who are knowingly delaying their presentation to health care. Any
| Excisions (n) | T-stage distribution (n) | High-risk pathology (SCC/BCC) or adverse prognostic feature (melanoma) | Thickness (mm) |
|---------------|-------------------------|---------------------------------|---------------|
|               | Prelockdown | Postlockdown | P-value<sup>a</sup> | Prelockdown | Postlockdown | P-value<sup>a</sup> | Prelockdown | Postlockdown | P-value<sup>a</sup> |
| BCC           | 200        | 252          | pT1                  | 190         | 239         | 0.93 | 102/200 (51.0) | 116/252 (46.0) | 0.29 | 1.80 (0.20–6.60) | 2.00 (0.60–8.50) | 0.17 |
|               |            |              | pT2                  | 8           | 8           |      |              |              |      |                |                |     |
|               |            |              | pT3                  | 2           | 4           |      |              |              |      |                |                |     |
|               |            |              | pT4                  | 0           | 0           |      |              |              |      |                |                |     |
|               |            |              | Not staged           | 0           | 0           |      |              |              |      |                |                |     |
|               |            |              | Excluded<sup>c</sup> | 0           | 1           |      |              |              |      |                |                |     |
| SCC           | 56         | 65           | pT1                  | 43          | 53          | 0.64 | 17/56 (30)   | 25/65 (38)   | 0.35 | 2.75 (0.60–22.0) | 2.45 (0.20–17.0) | 0.23 |
|               |            |              | pT2                  | 5           | 1           |      |              |              |      |                |                |     |
|               |            |              | pT3                  | 8           | 11          |      |              |              |      |                |                |     |
|               |            |              | pT4                  | 0           | 0           |      |              |              |      |                |                |     |
|               |            |              | Not staged           | 0           | 0           |      |              |              |      |                |                |     |
|               |            |              | Excluded<sup>c</sup> | 0           | 0           |      |              |              |      |                |                |     |
| Melanoma      | 71         | 52           | pTis                 | 13          | 10          | 0.83 | 30/71 (42)   | 22/52 (42)   | 1.00 | 0.95 (0.30–11.9) | 0.85 (0.20–17.4) | 0.83 |
|               |            |              | pT1a                 | 24          | 19          |      |              |              |      |                |                |     |
|               |            |              | pT1b                 | 6           | 5           |      |              |              |      |                |                |     |
|               |            |              | pT2a                 | 9           | 4           |      |              |              |      |                |                |     |
|               |            |              | pT2b                 | 2           | 2           |      |              |              |      |                |                |     |
|               |            |              | pT3a                 | 6           | 3           |      |              |              |      |                |                |     |
|               |            |              | pT3b                 | 4           | 5           |      |              |              |      |                |                |     |
|               |            |              | pT4a                 | 2           | 3           |      |              |              |      |                |                |     |
|               |            |              | pT4b                 | 4           | 1           |      |              |              |      |                |                |     |
|               |            |              | Not staged<sup>d</sup>| 1           | 0           |      |              |              |      |                |                |     |
|               |            |              | Excluded              | 0           | 0           |      |              |              |      |                |                |     |

Data are n (%) or median (range) unless otherwise stated. BCC, basal cell carcinoma; SCC, squamous cell carcinoma. <sup>a</sup>P-values represent Mann–Whitney U-tests of difference in the distribution of pT stage and tumour thickness between the prelockdown (2019) and postlockdown (2020) groups. Distributions of pT stage and tumour thickness were similar, as assessed by visual inspection. A non-parametric test was chosen as the data showed significant right skew and there were extreme (but real) outliers in the tumour thickness data. <sup>b</sup>P-values represent χ²-tests of homogeneity in the proportion of skin cancers showing any single high-risk (BCC/SCC)/adverse prognostic pathological feature (melanoma) between the prelockdown and postlockdown groups. SPSS statistics v. 25 (IBM, Amnonk, NY, USA) was used for analysis. P-values were considered statistically significant at ≤ 0.05. <sup>c</sup>Excluded case: eyelid BCC, staged according to ocular TNM. <sup>d</sup>Case not staged: suspected recurrence.
future work should capture different regional cohorts and seek to clarify the duration and reasons for delay in presentation.

Acknowledgments: we would like to thank Mr Richard Mattias for his assistance with the data collection.

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Funding sources: none.

Conflicts of interest: the authors declare they have no conflicts of interest.

Data availability statement: the data that support the findings of this study are available from the corresponding author upon reasonable request.