Mortality of Bullous Pemphigoid in China

Bullous pemphigoid (BP) is the most common acquired autoimmune blistering disorder that occurs mostly in elderly people. The first-year mortality has been reported to range from 6% to 41%. This study determined the 1-, 2-, and 5-year mortality of patients with BP between January 1991 and 2011. Information on the status of patients who became unavailable for follow-up by the hospital department was obtained by telephone calls.

The mortality at 1, 2, and 5 years after first hospitalization was calculated based on the Kaplan-Meier survival estimate. Cox logistic regression in multivariate analysis was used. For the analysis, if no predefined cutoff points were available, continuous variables were categorized on the basis of the median. The ratio of the observed to expected death rates, or the standardized mortality ratio (SMR), was calculated for age categories. The study was approved by the ethics committee of Peking Union Medical College.

Results. A total of 140 patients with BP and a follow-up time 1 year or longer were included. The median age was 67 years, and the mean (SD) age was 64.3 (13.6) years. The median time from onset of disease to hospitalization was 2.94 months (range, 7 days to 30 years). The median follow-up time was 3 years. The 1-year mortality was 12.9% (95% CI, 8.3%-19.6%); the 2-year mortality was 20.1% (95% CI, 14.4%-28.0%); and the 5-year mortality was 33.5% (95% CI, 25.6%-43.1%) (Figure).

In the univariate analysis, several variables increased mortality (Table 1). Nonsignificant comparisons included smokers vs never smokers (P = .20), drinkers vs never drinkers (P = .33), urban vs rural population (P = .06), duration of disease longer than 2.94 months vs 2.94 months or shorter (P = .25), and erythrocyte sedimentation rate higher than 23 mm/h vs 23 mm/h or less. The SMR varied from 3.08 to 6.14 depending on age group (Table 2). Based on these data, we concluded that the mortality of patients in our BP cohort was higher than would be expected in age-matched persons in the general Chinese population.

Comment. In our study, the 1-year mortality was 12.9%, which is similar to rates reported in previously published studies such as dapsone, cyclophosphamide, and others. Data were obtained of all patients with a discharge diagnosis of BP between January 1991 and 2011. Information on the status of patients who became unavailable for follow-up by the hospital department was obtained by telephone calls.

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Figure. Kaplan-Meier curve of overall survival of patients with bullous pemphigoid.
Table 1. Risk Factors Predictive of Death in Patients With Bullous Pemphigoid

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Patients, No. (%)</th>
<th>P Value</th>
<th>Univariate HR (95% CI)</th>
<th>P Value</th>
<th>Multivariate HR (95% CI)</th>
<th>P Value, HRs</th>
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<tbody>
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<td>Sex</td>
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</tr>
<tr>
<td>Female</td>
<td>58 (41.4)</td>
<td>.03</td>
<td>2.04 (1.07-3.91)</td>
<td>.03</td>
<td>2.57 (1.08-6.14)</td>
<td>.03</td>
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<tr>
<td>Male</td>
<td>82 (58.6)</td>
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<td>Age, y</td>
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<tr>
<td>≤67</td>
<td>75 (53.6)</td>
<td>&lt;.001</td>
<td>5.51 (2.88-11.37)</td>
<td>&lt;.001</td>
<td>2.10 (0.70-6.34)</td>
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<tr>
<td>&gt;67</td>
<td>65 (46.4)</td>
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<tr>
<td>Localized</td>
<td>18 (12.9)</td>
<td>.99</td>
<td>0.99 (0.42-2.37)</td>
<td>.99</td>
<td>NA</td>
<td>NA</td>
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<td>Generalized</td>
<td>117 (83.6)</td>
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<td>Mucosal lesions</td>
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<tr>
<td>Absent</td>
<td>92 (65.7)</td>
<td>.56</td>
<td>0.82 (0.42-1.60)</td>
<td>.56</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Present</td>
<td>45 (32.1)</td>
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<td>Serum albumin, g/L</td>
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<tr>
<td>&gt;35</td>
<td>54 (38.6)</td>
<td>.008</td>
<td>2.55 (1.25-5.22)</td>
<td>.01</td>
<td>1.47 (0.56-3.84)</td>
<td>.43</td>
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<tr>
<td>≤35</td>
<td>73 (52.1)</td>
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<td>Blood eosinophils</td>
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<td>≤1.5×10^9/L</td>
<td>89 (63.6)</td>
<td>.29</td>
<td>0.57 (0.20-1.63)</td>
<td>.30</td>
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<tr>
<td>&gt;1.5×10^9/L</td>
<td>21 (15.5)</td>
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<td>IIF</td>
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<td>Absent</td>
<td>36 (25.7)</td>
<td>.007</td>
<td>3.43 (1.31-8.97)</td>
<td>.01</td>
<td>1.78 (0.54-5.85)</td>
<td>.34</td>
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<tr>
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<td>68 (48.6)</td>
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<tr>
<td>Chronic lung disease</td>
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<tr>
<td>Absent</td>
<td>118 (84.3)</td>
<td>.46</td>
<td>1.36 (0.60-3.05)</td>
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<td>NA</td>
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<tr>
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<td>17 (12.1)</td>
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<tr>
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<td>1.64 (0.89-3.01)</td>
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<tr>
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<td>43 (30.7)</td>
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<tr>
<td>Absent</td>
<td>110 (78.6)</td>
<td>.008</td>
<td>3.74 (1.99-7.02)</td>
<td>&lt;.001</td>
<td>1.43 (0.51-3.97)</td>
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<tr>
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<td>&lt;.001</td>
<td>3.03 (1.63-5.63)</td>
<td>&lt;.001</td>
<td>2.58 (1.17-5.70)</td>
<td>.02</td>
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<td>114 (81.4)</td>
<td>.001</td>
<td>3.07 (1.56-6.03)</td>
<td>.001</td>
<td>2.40 (0.94-6.15)</td>
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<td>1.31 (0.40-4.23)</td>
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<td>12 (8.6)</td>
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<tr>
<td>Malignant neoplasms</td>
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<tr>
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<td>125 (89.3)</td>
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<td>1.72 (0.67-4.38)</td>
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<tr>
<td>Present</td>
<td>10 (7.1)</td>
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<tr>
<td>Treatment</td>
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<td>Corticosteroid</td>
<td>72 (51.4)</td>
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<td>0.46 (0.24-0.88)</td>
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<td>0.33 (0.12-0.92)</td>
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<td>Combination</td>
<td>62 (44.3)</td>
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<td>Initial corticosteroid dose, mg/d</td>
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<tr>
<td>≤65</td>
<td>73 (52.1)</td>
<td>.24</td>
<td>0.69 (0.37-1.29)</td>
<td>.25</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>&gt;65</td>
<td>61 (43.6)</td>
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<tr>
<td>Corticosteroid dose at discharge, mg/d</td>
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<tr>
<td>≤42</td>
<td>74 (52.9)</td>
<td>.97</td>
<td>0.99 (0.51-1.92)</td>
<td>.97</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>&gt;42</td>
<td>55 (39.3)</td>
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</tbody>
</table>

Abbreviations: HR, hazard ratio; IIF, indirect immunofluorescence analysis; NA, not applicable.

Conventional unit conversion factors: To convert serum albumin to grams per deciliter, multiply by 0.1; eosinophils to number of cells per microliter, multiply by 1000.

aNumbers may vary because information on the risk factors was not available in every case.

bP values are from Kaplan-Meier log rank tests.

cP values are from univariate Cox analysis.

dOral corticosteroid with immunosuppressant.
lished US studies but lower than reports in European studies. The European studies found a 1-year mortality varying between 19% and 41%. The younger age of patients with BP in our study (64.3 years) compared with the patient age in the European studies (74.0-82.6 years) might be responsible for this difference. The age distribution of the Chinese population differs from that of the European population in that Chinese persons 65 years or older represent only 0.83% of the total Chinese population, and those 80 years or older are only 0.88% of the total Chinese population.

Our SMR results are in accord with those reported in previously published European studies (SMR ranged from 2.15 to 15.3). A US study did not find a difference in mortality for patients with BP. Only hospitalized patients were included in our study, and time to death after first BP hospitalization was evaluated rather than time to death from BP diagnosis, which may explain our relatively higher SMR.

Several studies have suggested a relationship between BP and neurologic diseases. The presence of neurologic disease was related to elevated mortality in our study. Results from recent reports, in which neurologic diseases also correlated with higher mortality, support our findings. The association of oral corticosteroid treatment alone with increased mortality may be because this treatment was used when patients with BP had poor general health.

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Author Contributions: All authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design: Li. Acquisition of data: Zuo and Zheng. Drafting of the manuscript: Li, Zuo, and Zheng. Critical review of the manuscript for important intellectual content: Li. Statistical analysis: Li. Administrative, technical, and material support: Zuo. Study supervision: Li.

Conflict of Interest Disclosures: None reported.


Effectiveness of Cryosurgery vs Curettage in the Treatment of Seborrheic Keratoses

Seborrheic keratoses (SKs) are one of the most common types of skin lesions (prevalence, 69%-100% among adults older than 50 years). Although SKs are benign, patients with SKs frequently desire treatment for symptoms of itching and irritation or for cosmetic purposes. Seborrheic keratoses have been treated with varying efficacy by many techniques. Two effective options include cryosurgery and curettage. Our objective was to determine comparative efficacy of cryosurgery and curettage in the treatment of SKs on the trunk and proximal extremities.

Methods. Twenty-five adults, aged 52 to 75 years, with diagnoses of SK were enrolled in our study. Treatment options were curettage or cryotherapy, based on coin toss randomization. Lesions treated with curettage were injected with lidocaine, 1%, with epinephrine and buffer using a 30-gauge needle. A No. 15 scalpel was used to curette the lesions. Subjects were instructed to cover the wound with petrolatum and a bandage. Lesions treated with cryotherapy were treated using liquid nitrogen in a 1-cycle stutter technique to ensure that the freezing stayed within the confines of lesion and to ensure complete freezing for approximately 12 seconds.

For each participant, one SK lesion to be treated was identified on each side of the trunk or proximal extremities. When multiple SKs were present, 2 with similar characteristics (size and thickness) were selected.

Subject evaluations were obtained via questionnaire. Treatment sites were also evaluated based on texture and color variation by a blinded physician observer (L.D.W.) 6 weeks and more than 12 months after each intervention.

This study was approved by the Penn State Hershey institutional review board.

Results. At 6 weeks, 15 of 25 subjects preferred cryotherapy (60%), and 9 of 25 preferred curettage (36%). One of 25 was undecided (4%). At greater than 12 months, 11 of 18 preferred cryotherapy (61%), and 7 of 18 preferred curettage (39%). Seven subjects were lost to follow-up.

The patient rating scale for lesion cosmesis ranged from 1 (lesion unchanged) to 10 (normal-appearing skin). Mean ratings for cosmesis (reported as “6-week/>12-month”