Seborrhoeic Dermatitis in the Elderly: Inferences on the Possible Role of Disability and Loss of Self-sufficiency

Mario MASTROLONARDO¹, Annalisa DIAFERIO¹, Gianluigi VENDEMIALE² and Pierluigi LOPALCO³

Departments of ¹Dermatology, ²Geriatrics and ³Hygiene, University of Foggia, Bari, Italy

Seborrhoeic dermatitis (SD) is commonly described as a chronic, inflammatory and scaling disorder affecting the skin on the head and other sites with rich sebaceous gland supply. Type and mode of action of factors promoting and sustaining the course of SD have partly eluded investigators to date (1). Clinicians vary in their concept of SD and in their propensity to diagnose the condition. These circumstances have probably made it difficult to obtain powerful estimates of the prevalence of SD, which in most textbooks of dermatology is set at between 1 and 5% in the general population (2–5). However, it is worth underlining that several studies have yielded consistently higher rates among elderly subjects (6–10).

Against this background, an association of SD with age-related pathophysiological processes interfering directly with sebaceous gland activity might therefore be advocated. Yet, in aged persons, sebocyte turnover is not increased, but rather decreased in both SD sufferers (11) and unaffected individuals (12, 13). On the other hand, the ability of aging per se to increase the frequency of skin disease by introducing changes in the everyday life of the elderly (as concerns, for instance, time spent in outdoor and/or social activities, adequacy of food intake and care in personal hygiene) has to date never been investigated.

The aims of the present study were a) to estimate the rate of occurrence of SD in a series of aged patients, and b) to investigate whether age-related decrease of overall self-sufficiency and functional reserve may be predictive of the presence of the skin condition.

PATIENTS AND METHODS

The study was performed at the university hospital of Foggia (South Italy) serving approximately 200,000 inhabitants. Patients aged ≥65 years admitted to the dermatology and geriatrics outpatient units were consecutively included over a period of 6 months (January to June). In total, 186 patients were enrolled (Table I).

In all subjects, a thorough history was preliminarily taken for associated non-cutaneous illnesses. Moreover, complete skin examination was carried out to detect the presence/absence of SD. In this regard, considering the wide variability in clinical expression and clinicians' readiness to recognize the skin condition, seborrhoeic dermatitis was diagnosed only when there was complete agreement between two independent observers (MM and AD).

Assessments of age-related loss of self-sufficiency were performed by one of us (GV, who was unaware of findings on dermatological examination) using the Activities of Daily Living (ADL) index, an instrument that has been found to have adequate reliability and validity in the elderly for assessing an individual's overall degree of disability (14). In detail, the ADL index focuses upon the following six personal tasks: hygiene, dressing and undressing, mobility, ability to go to the toilet, bowel and bladder continence, and food intake. The ability to perform each function is scored 1 to 0. On this basis, the global performance is scored from 6 (when the subject is independent in all functions) to 0 (when the subject is dependent in all respects). Consequently, the lower the ADL rating obtained, the lower the level of the subject's self-sufficiency and functional reserve.

Statistical analysis

Patients found to have SD were compared with those free from the skin condition. Basic descriptive statistics of the study population were expressed as mean values ± SD, median
significant (Data are expressed as mean values ± SD. median values with 25th–75th percentiles or proportions, as appropriate. NS, not statistically significant (P > 0.05).

values with 25th–75th percentiles or proportions, as appropriate. For all data analysis, SD was included as the response variable, while age, gender, associated non-cutaneous conditions and degree of patients’ loss of self-sufficiency (ADL) were considered as independent variables. ADL ratings were processed as a dichotomous variable as follows: ≥5 (subject totally independent or dependent in only one function) and <5 (subject with two or more dependencies).

Analyses of potential association between SD and the independent variables were initially performed using univariate logistic regression for age, gender and ADL, and χ² test for associated non-cutaneous conditions. All variables with a univariate P value < 0.05 were included as candidate explanatory variables in a multiple logistic regression analysis.

RESULTS

In all, 186 subjects (mean age, 73.9 years; range, 65–89; male to female ratio, 0.86) were enrolled (Table I). On physical examination, SD was detected in 43 cases (23.1%). As regards affected skin sites, the face was involved in all cases, while active lesions on the scalp and trunk were detected only in 21 (48.8%) and 8 cases (18.6%), respectively. Of note, skin complaints on seborrhoic areas were the reason for seeking medical consultation in only a minority of patients (25.6%), the others attended for different skin afflictions (more frequently consisting of moles, senile purpura, cherry angiomas, acrochordons, seborrhoic keratoses, actinic keratoses, epitheliomas, contact dermatitis, stasis dermatitis, or generalized pruritus).

On univariate analysis, patients with SD differed significantly from unaffected individuals in terms of both age (78.9 ± 5.4 vs 72.3 ± 5.4; p < 0.0001) and male to female ratio (26/17, i.e. 1.53; vs 60/83, i.e. 0.72; p < 0.05). On the other hand, the proportion of subjects with associated non-cutaneous conditions was not significantly different from that observed among SD free subjects (p > 0.05). All patients also successfully completed the questionnaire evaluating ADL items (as described above) by either answering questions directly, or with the aid of a supportive partner, relative or own caregiver personnel. As shown in Table I, median ADL ratings were 4 and 6 in patients with and without SD, respectively. Of note, subjects with SD were more likely to have an ADL score < 5, indicating dependence in two or more functions (51.2 vs 1.4%; p < 0.0001).

Odds for SD were also assessed with multiple logistic regression analysis for variables with univariate p < 0.05 (Table II). The procedure demonstrated that age (odds ratio [OR]: 1.14; 95% confidence interval [95% CI]: 1.04–1.25; p < 0.001) and ADL < 5 (OR: 30.15; 95% CI: 5.83–156.95; p < 0.0001) were independent explanatory variables of SD. By contrast, gender (male) was found to have no significant predictive ability (p > 0.05).

DISCUSSION

In the present study of 186 subjects aged ≥65 years, 43 (23.1%) had SD. Along with age, the degree of disability and loss of self-sufficiency were the most important independent predictive variables of the skin condition.

Consistently higher ratings of SD prevalence have been obtained in several surveys carried out through the geriatric age span. To cite some examples, the following estimates have been reported: 7%, plus a noticeable 44% of ‘ pityriasis capitatis’, by Weismann et al. (6); 8%, by Thaipisuttikul (7); 10.5% by Beauregard & Gilchrest (8); 31% by Tindall (9); and > 67% by

Table I. Characteristics of the study population: univariate analysis of clinical findings and disability in performing activities of daily living (ADL)*

<table>
<thead>
<tr>
<th></th>
<th>Total (n=186)</th>
<th>Present (n=43)</th>
<th>Absent (n=143)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>73.9 ± 5.9</td>
<td>78.9 ± 4.3</td>
<td>72.3 ± 5.4</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Men/women</td>
<td>86/100</td>
<td>26/17</td>
<td>60/83</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Associated non-cutaneous conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>141</td>
<td>31 (72%)</td>
<td>110 (77%)</td>
<td>NS</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>37</td>
<td>9 (21%)</td>
<td>28 (20%)</td>
<td>NS</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>24</td>
<td>5 (10%)</td>
<td>19 (13%)</td>
<td>NS</td>
</tr>
<tr>
<td>Other</td>
<td>63</td>
<td>13 (30%)</td>
<td>50 (35%)</td>
<td>NS</td>
</tr>
<tr>
<td>ADL index (0–6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global ratings</td>
<td>5.5 (5–6)</td>
<td>4 (4–5)</td>
<td>6 (5–6)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>&lt;5 (2 or more dependencies)</td>
<td>24 (12.9%)</td>
<td>22 (51.2%)</td>
<td>2 (1.4%)</td>
<td></td>
</tr>
<tr>
<td>≥5 (0 or 1 dependency)</td>
<td>162 (87.1%)</td>
<td>21 (48.8%)</td>
<td>141 (98.6%)</td>
<td></td>
</tr>
</tbody>
</table>

*Data are expressed as mean values ± SD, median values with 25th–75th percentiles or proportions, as appropriate. NS, not statistically significant (P > 0.05).

Table II. Logistic regression analysis for prediction of seborrhoic dermatitis

<table>
<thead>
<tr>
<th></th>
<th>Odds ratio (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.14 (1.04–1.25)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Sex (male)</td>
<td>2.31 (0.91–5.89)</td>
<td>NS</td>
</tr>
<tr>
<td>ADL (&lt;5)</td>
<td>30.16 (5.83–156)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

ADL, activities of daily living; NS, not statistically significant.
REFERENCES


