Histopathological Study of Skin Adnexal Tumours—6 Years Study

KEYWORDS
adnexal tumors, pilosebaceous tumors, apoeccrine tumors

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ABSTRACT
Objective: The aim of this study was to correlate skin adnexal tumors with age, sex, and location and to determine its incidence in the Department of Pathology at Kurnool Medical College, Kurnool, Andhra Pradesh. Material and Methods: 60 cases were included in this study from June 2010 to June 2016 with respect to incidence of adnexal tumors, age, and sex distribution. All the slides were stained with haematoxylin and eosin and then findings were corroborated with special stains like PAS and reticulin wherever required. Results: 81.66% (49/60) were benign and 18.33% (11/60) were malignant adnexal tumors. Sweat gland tumors constituted the largest group 48.33% (29/60), followed by the hair follicle tumors 33.33% (20/60) and sebaceous gland tumors 18.33% (11/60). Overall male: female ratio was 1: 1.22. The commonest age group was 41–50 years and the commonest affected body part was head and neck region (65%, 39/60) followed by trunk (13.33, 08/60). Trichoepithelioma and Nodular hidradenoma were commonest benign tumors and sebaceous carcinoma, commonest malignant tumor seen. Conclusion: The incidence of benign skin adnexal tumors were more as compared to the malignant tumors. Malignant tumors were seen in older age group, usually over 50 years of age.

Table 1: Adnexal tumors according to the direction of differentiation.

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Direction of differentiation</th>
<th>No. of cases</th>
<th>Percentage incidence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hair follicle tumors</td>
<td>20</td>
<td>33.33</td>
</tr>
<tr>
<td>2</td>
<td>Sebaceous gland tumors</td>
<td>11</td>
<td>18.33</td>
</tr>
<tr>
<td>3</td>
<td>Sweat gland tumors</td>
<td>29</td>
<td>48.33</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

The head and neck region was the most common site affected (65%, 39/60) followed by trunk (13.33%, 8/60) and upper limb (11.66%, 7/60). In head and neck region 36.66% (22/60) were located on the face followed by scalp in 21.66% (13/60). The lower limb region was least affected 5% (3/56). The male: female ratio was 1: 1.22 (Table 2).

Table 2: The site and sex distribution of observed adnexal tumors

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Site of the tumor</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Incidence(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Scalp</td>
<td>5</td>
<td>8</td>
<td>13</td>
<td>21.66</td>
</tr>
<tr>
<td>2</td>
<td>Face</td>
<td>8</td>
<td>14</td>
<td>22</td>
<td>36.66</td>
</tr>
<tr>
<td>3</td>
<td>Neck</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6.66</td>
</tr>
<tr>
<td>4</td>
<td>Trunk</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>13.33</td>
</tr>
<tr>
<td>5</td>
<td>Upper limb</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>11.66</td>
</tr>
<tr>
<td>6</td>
<td>Lower limb</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Not specified</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>27</td>
<td>33</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

Tumors were observed in all age groups, ranging from young to old.
from 8 to 75 years. However, the highest incidence was observed in the age group of 41–50 years (23.33%, 14/60) followed by age groups of 21–30 (18.33%, 11/60) and 31–40 (18.33%, 11/60) years, respectively. (Table 3)

Table 3: Age incidence of individual adnexal tumors observed in the present study.

<table>
<thead>
<tr>
<th>Age groups (in years)</th>
<th>Sr.no</th>
<th>Tumors</th>
<th>1-10</th>
<th>11-20</th>
<th>21-30</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>61-70</th>
<th>&gt;70</th>
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<tbody>
<tr>
<td>Hair follicle tumors</td>
<td>1</td>
<td>Trichofoliculoma</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Trichoepithelioma</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Trichoblastoma</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Trichoadenoma</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Pilomatricoma</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>1</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Proliferating trichilemmal cyst</td>
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<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sebaceous gland tumors</td>
<td>8</td>
<td>Sebaceous adenoma</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Sebaceous carcinoma</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Sweat gland tumors</td>
<td>10</td>
<td>Apocrine hidrocystoma</td>
<td>2</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Hidradenoma papillifer</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Syringocystadenoma papillifer</td>
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<td>1</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>13</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>14</td>
<td>Cylindroma</td>
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<td></td>
<td>15</td>
<td>Eccrine poroma</td>
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<td>1</td>
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<td>1</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>17</td>
<td>Nodular hidradenoma</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>Porocarcinoma</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Mucinous eccrine carcinoma</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>2</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>14</td>
<td>8</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

The hair follicle tumors comprised of Trichoepithelioma, Pilomatricoma, Proliferating trichilemmal cyst, Trichilemmoma and Trichofolliculoma (Figure 1). Sebaceous glands tumors comprised of Sebaceous adenoma and Sebaceous carcinoma (Figure 2). The sweat glands tumors are comprised of, Nodular hidradenoma, Syringoma, Eccrine poroma, Cylindroma, Apocrine hidrocystoma, Syringocystadenoma papillifer and Hidradenoma papillifer (Figure 1). Amongst the benign tumors; Trichoepithelioma and Nodular hidradenoma were the most common tumors representing 20% (12/60) cases. Trichoepitheliomas showed peak incidence between 11 and 40 years of age and was more common in females 10% (06/60). Nodular hidradenoma was observed in age ranging from 11 to 50 years. Most of the patients were above 30 yrs of age with female preponderance 10% (06/60). Syringomas were seen with age group ranged from 11 to 50 years and more common in females 8.33% (05/60). Pilomatricoma came next, constituting 8.33% (05/60) cases (Table 3). Amongst the malignant tumors sebaceous carcinoma constituted 13.33% (08/60). Eccrine mucinous carcinoma 3.33% (02/60) and Porocarcinoma 1.66% (01/60) (figure 2). Most of them were occurring in people above 50 years of age.

4. Discussion

Incidence of benign tumors is more as compared to malignant cases. In the present study 81.66% (49/60) tumors were benign and 18.33% (11/60) tumors were malignant, which was also seen in studies of Radhika et al.,[4] Reddy et al.[5] and Samaila[6] who reported 77.14%.
69.41%, and 88.5% benign and 29.63%, 30.59%, and 11.5% malignant lesions, respectively. Nair\cite{7} observed that sweat glands tumors are the commonest followed by hair follicle tumors and sebaceous glands tumors. The present study also shows similar results. However, Radhika et al.\cite{4} and Samaila\cite{6} observed that sweat glands tumors are the commonest SATs followed by sebaceous glands tumors followed by tumors of hair follicle. Male : female ratio as observed by Nair \cite{7} and Saha et al. \cite{8} was 1 : 2.3 and 1 : 1.88, respectively. The present study also shows similar results (1 : 1.22). Radhika et al. also observed that majority of the patients are in the third decade and females outnumbered males.\cite{4} Saha et al.\cite{8} observed the mean age of onset of SATs was 24.15 ± 8.44. Nair \cite{7} observed the commonest age group of presentation was 11–20 years; however, in the present study, commonest Skin Cancer age group was 41–50 years followed by 31–40 years. Samaila\cite{6} observed that 46% of lesions were located in head and neck region which was also seen in our study. Song et al. observed that pilomatricoma was the most common benign tumor followed by dermoid cyst followed by steatocystomatocystic, syringoma, and trichilemmal cyst.\cite{9} Radhika et al. observed that the most common benign tumor is nodular hidradenoma followed by sebaceous naevus.\cite{4} In the present study, most common tumors were Trichoepithelioma and Nodular hidradenoma followed by Syringoma.

5. Conclusion

In Indian population, the overall incidence of skin adnexal tumors is very low. The incidence of benign skin adnexal tumors is more as compared to the malignant ones. Most of the malignant tumors occur in older age group usually over 50 years of age. However benign tumors show a wide age variation. Skin adnexal tumors can occur anywhere in the body; however head and neck region constitutes the most common site. Majority of the tumors can be classified into different subgroups on the basis of light microscopy alone. Skin adnexal tumors showing sweat gland differentiation are seen more frequently. In our institutional study, Trichoepithelioma is the most common type of hair follicle tumor while Nodular hidradenoma is the commonest tumor with sweat gland differentiation. Amongst the tumors with sebaceous differentiation, sebaceous carcinoma (meibomian carcinoma) is commonest.


