# Biopsied Facial Dermatologic lesions in a Jordanian Population a Retrospective Analysis over 10 Years

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**Abstract**

There is a paucity in analytical studies on epidemiology of the full spectrum of variable facial dermatologic lesions.

To analyze some features of facial dermatologic lesions.

Records of 1219 patients with biopsied facial dermatologic lesions were retrieved from Pathology Department at the Hospital of Jordan University of Science and Technology, and analyzed for age, gender, location, and pathological class.

A sum of 536 (44%) cases occurred in males and 683 (56 %) in females with a mean age of 37.6 (±21.8) years. Neoplasms (benign (67.5%) and malignant (32.5%)) were the most frequent (72.2%), followed by cysts (11.6%), infections (6.3%), inflammation (3.0%), and granulomatous (2.7%), pilosebaceous (1.6%), and connective disorders (1.2%). The most frequent benign neoplasms were melanocytic (40.1%); and the vast majority (96.9%) of malignant neoplasms were Non-melanoma type. Mean age and F: M ratio for patients affected by benign and malignant neoplasms were 32 and 60.4 years, and 1.6: 1, and 1.3: 1, respectively. Benign (17.4%) and malignant (27.6%) neoplasms both had a predilection to the nose. Epidermoid (53.5%) and dermoid (46.5%) cysts had an average age of 21.9 years, F: M ratio of 1: 1.4, and periorbital predilection (52.2%). The frequent infection was viral, with an average age of 32 years, F: M ratio of 1: 1.07, and nose predilection (32.2%).

This work may help health professionals to have a better appreciation of the frequency and variability of dermatologic facial lesions, and further promote interdisciplinary consultations

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## Introduction

Patients can present with a diversity of dermatologic clinical pictures including lumps, cracks, ulcers or abnormal discoloration and examination of the face is an integral part of routine clinical examination. Familiarity with patterns and distribution of facial skin lesions can help enhance appropriate diagnosis and management.

There is a plethora of previously published literature about cancer of facial skin. However, it is unfortunate that the literature suffers from an obvious lack of analytical studies on the epidemiology of the full spectrum of the highly variable facial dermatologic lesions encountered in clinical practice. The aim of this retrospective study is to analyze some of the epidemiological features of biopsied facial dermatologic lesions as seen in a Northern Jordanian population.

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## Patients and methods

Data included in this study were collected, from the archives of the Pathology Department at the Hospital of Jordan University of Science & Technology. Records of patients with biopsied dermatologic facial lesions received during a 10-year period were retrieved, reviewed and analyzed. In cases where initial incisional and final excisional biopsies were done for the same lesion, only the result of the excisional biopsy was included in the analysis. A total number of 1278 records retrieved, 59 were incomplete and were, therefore, excluded leaving 1219 were for

analysis. The outcome measures were the patients' age and gender, and the lesions' site and type. Every lesion type was categorized under an individual class, and subclass, according to Cockerell et al [1] (Table 1).

## Results

Of the total number of 1219 cases included in the study, 536 (44%) cases occurred in males and 683 (56 %) in females. The age at presentation ranged from 2 weeks to 122 years, with a mean age of 37.67 (±21.8 SD) years and mode of 60 years.

### Classes of lesions

As shown in Table 1, out of a total number of 1219 investigated lesions, none-malignant lesions were the most frequent amounting to 933 (76.5%) lesions.; on the other hand, malignant lesions amounted to 286 (21.9%). Neoplasms (benign and malignant) were the most commonly encountered lesions amounting to 880 (72.2%) cases. This was followed, in descending order, by cysts, infections, none-specific inflammation, granulomatous diseases, pilosebaceous diseases and connective tissue disorders. Other rare classes of lesions are shown in Table 1.

#### *Neoplasms*

There were 880 neoplasms divided into 594 (67.5%) benign and 286 (32.5%) malignant tumors. The most frequent benign neoplasms were of melanocytic origin (238; 40.1%), followed by vascular (154; 25.9%) and Adnexal (70; 11.8%) neoplasms. Other subclasses of benign neoplasms are detailed in Tables 2 and 3. Malignant neoplasms are detailed in Table 2. The vast majority of malignant neoplasms were of the Non-melanoma type (277; 96.9%). Other malignant neoplasms were very infrequent (Table 2).

The average age of patients affected by benign neoplasms was 32 years (±17.2 SD, mode of 30 years). The age distribution of individual benign neoplasm is detailed in Tables 2 and 3. On the other hand, the average age of patients affected by malignant neoplasms was 60.4 years (±16.1 SD, mode of 60 years. The age distribution of individual malignant neoplasm is detailed in Table 2.

Out of the 880 cases of neoplasm, 527 (59.9%) affected females and 353 (40.1%) affected males, with a female to male ration of 1.5: 1. Benign neoplasms were found in 363 (61.1%) females and 231 (38.9%) males with a female to male ration of 1.6: 1. Similarly, malignant neoplasms affected 164 (57.3%) females and 122 (42.7%) with a female to male ration of 1.3: 1.

Information about the exact facial site distribution, among the 880 neoplasms, were available for 648 (73.6%); the site distribution for the remaining 232 cases was referred to as "face". Similarly, lip lesions, otherwise unspecified as either upper or lower lips were found in 41(4.7%) neoplasm cases. These unspecified face or lip lesions were not counted for the site analysis leaving 403 benign and 204 malignant neoplasm for site analysis. The most frequently affected facial site with benign neoplasms was the nose (70; 17.4%), followed, in descending order, by eyelids (68; 16.9%), forehead (66; 16.4%), cheeks (46; 11.4%), peri-auricular areas (34; 7.9%), eyebrows (25; 5.8%), and others. The exact site distribution for individual benign neoplasms is shown in Table 2.

The most frequently affected facial site with malignant neoplasms was the nose (79; 38.7%) followed, in descending order, by the eyelids (36; 17.6%), cheeks (16; 7.8%) forehead (14; 6.9%), and upper lip (14; 6.9%). The exact site distribution for individual malignant neoplasms is detailed in Table 2.

#### *Cysts*

There were 142 cases of cysts distributed into 76 (53.5%) epidermoid and 66 (46.5%) dermoid types. The average age of patients affected by cysts was 21.9 years (±16.7 SD, mode of 2 years). The age distribution of individual cysts is detailed in Table 3. Out of the 142 cases of cysts, 60 (42.3%) affected females and 82 (57.7%) affected males, with a female to male ration of 1: 1.4.

Information about the exact facial site distribution, among the 142 cysts, was available for 113 (79.6%) cases. The periorbital region (eyebrows, eyelids, and infraorbital skin) was the most frequently affected area (59; 52.2%) with both types of cysts, the exact site distribution for individual cyst types is shown in Table 3.

#### *Infectious diseases*

There were 79 cases of infectious diseases, the most frequent was viral infections (69; 87.3%); other types of infections (bacterial, fungal and parasitic) were very infrequent (Table 3). Viral infections were entirely of the verruca

vulgaris type. The average age of patients affected by infectious disease was 32 years (±21 SD, mode of 30 years). The age distribution of individual infectious disease is detailed in Table 3. Out of the 79 cases of infectious disease, 38 (48.1%) affected females and 41 (51.9%) affected males, with a female to male ration of 1: 1.07.

Information about the exact facial site distribution, among the 79 infectious diseases, was available for 59 (74.7%) cases. The most frequently affected facial site with verruca vulgaris was the nose (19; 32.2%) followed, in descending order, by the eyelids (14; 23.7%), forehead (8; 13.6%), and others. The exact site distribution for individual infectious diseases is shown in Table 3.

***Granulomatous diseases***

There were 31 cases of granulomatous diseases; the most frequent was foreign body reaction lesions (18; 54.5%) (Table 3). The average age of patients affected by granulomatous disease was 33.8 years (±19.4 SD, mode of 18 years). The age distribution of individual granulomatous diseases is detailed in Table 3. Out of the 31 cases of granulomatous diseases, 17 (54.8%) affected females and 14 (45.2%) affected males, with a female to male ration of 1: 1.2.

Information about the exact facial site distribution, among the 31 granulomatous diseases, was available for 16 (51.6%) cases. The most frequently affected facial site with granulomatous diseases was the upper lip (4; 25.0%) and eyelids (4; 25.0%). The exact site distribution for individual granulomatous diseases is shown in Table 3.

***Others***

Other, less frequent, lesions are detailed in Table 3. Lesions with relatively higher frequency included non-specific inflammation, pilonidal sinus, discoid lupus erythematosus, lichen planus and Jessner's lymphocytic infiltrate.

## Discussion

Cases included in this study occurred more in females (56 %) than males (44%), this is the reverse of findings in one previous study [2]. Given the fact that the Jordanian population, over the last 4 decades, has always exhibited a slight male preponderance (51% males and 49% males), which is opposite to the gender frequency in our study, our results probably indicate a slight predilection of facial skin lesions towards female gender. Alternatively it might reflect the state of increased facial cosmetic concerns among females. The mode of age at presentation in our study was 60 years. This is similar to findings of others [3] indicating that the majority of facial skin biopsies were performed on an older population. Despite the fact that up to 48% of the Jordanian population members are in their 1st and 2nd decades of life, a higher frequency of lesions were in older population members.

We have found that the most frequent benign neoplasms were of melanocytic origin, namely melanocytic nevi, this agrees with findings of others [4]. Currently melanocytic nevi are regarded as neoplasms of neural crest origin [5]. Because of the strong association between occurrence of dermatologic melanoma and the prevalence of melanocytic nevi [6], there is an abundance of literature on these lesions. However, little has been published on the prevalence of these lesions on facial skin.

A limited number of histologic studies have analyzed the location of nevi at different body sites. The current study showed that 40.1% of benign dermatologic facial neoplasms were melanocytic nevi. This finding is comparable to previous investigations [7]. The majority (90.3%) of these melanocytic nevi in our study were of the intradermal type. A finding in agreement with previous studies that showed that the architectural features of melanocytic nevi follow a location-dependent pattern with dermal nevi affecting mainly the head and the upper body parts, and junctional nevi affecting mostly the extremities [8].

It has been agreed that whole-body nevi increase in prevalence during adolescence and early adulthood[9]. This is slightly in variance with our findings; we found that facial melanocytic nevi have a peak incidence during the 4th decade. The reason could be a selection bias, as only biopsied nevi are included in our study. Alternatively, this could point out to a true difference in age distribution for facial melanocytic nevi. Further randomized cross-sectional prevalence studies on this matter are therefore, warranted.

The current study showed a higher frequency of facial melanocytic nevi among females. This contrast with findings of others [9]

who found a higher predilection of whole-skin melanocytic nevi to male gender. On the other hand, our findings agree with one study [10] that reported on nevi of one facial skin sub-site, the eyelids, and found a higher frequency among females. This suggests that facial melanocytic skin nevi probably have a female gender distribution in variance to other general body skin areas.

Vascular anomalies have been divided into subcategories of vascular neoplasms (benign and malignant) and vascular malformations. Infantile hemangiomas are benign vascular neoplasms occurring in 5-10 % of births [11]. They demonstrate immunopositivity for the biologic markers GLUT1, FcγRII, merosin, and Lewis Y antigen) [12]. Infantile hemangiomas frequently occur around the neck (60%) [12, 13].

In the current study, vascular tumors were the 2nd most common type of benign tumors (17.5%) consisting largely of hemangioma (57.8%) and pyogenic granuloma (34.4%); vascular malformations constituted only 2% of all vascular lesions. We found an almost equal gender distribution of vascular tumors, with the nose skin being the most commonly affected site. Our results are slightly in variance with those of others [14].

Pyogenic granulomas are a very common benign vascular neoplasm that occurs on both mucous membranes (gingivae and lips) and dermatologic sites including fingers, face and less commonly the trunk and extremities. Males are slightly more affected than females (3:2). Our findings are in general consistence with previous information except a slight female gender preponderance for pyogenic granulomas. On the other hand, our findings are in agreement with others [15] who retrospectively analyzed biopsied pyogenic granulomas of the whole body; they found a male-to-female ratio of 1:1.2, with mean age of 35.3 years.

Skin adnexal (Trichogenic) tumors are rare neoplasms and most are benign [16]. They encompass a varied collection of neoplasms which show morphological differentiation in the direction of either one, or more, of the different types of adnexal epithelium present in the skin; namely follicular epithelium, sebaceous tissues, or sweat glands (apocrine and eccrine units). Malignant transformation in longstanding benign adnexal neoplasms is possible albeit rare [17].

In our series, 8% of neoplasm were benign adnexal neoplasms, with pilomatricoma being the most frequent (44.3%), followed by Nevus sebaceous of Jadassohn (11.4%), apocrine cystadenoma (8.6%) and Chondroid syringoma (8.6%). The nose and eyelids were the most frequently affected sites. It has been shown that 46% to 59% of adnexal skin tumors were distributed in the head and neck region [18]. Pilomatricoma is a benign adnexal neoplasm with differentiation in the direction of the hair matrix. It usually presents as a single, firm lump more commonly on skin of the cheeks and upper cervical area [19]. Approximately 60% of head and neck lesions develop in the first 2 decades of life, and it is more common in females. Most pilomatricomas, even if they are incompletely removed, will not return. However some cases will have a local aggressive behavior. Nevus sebaceous of Jadassohn[20] is a common lesion. It is often present at birth, or in early childhood, as a single, hairless area frequently on the scalp, forehead, or central face. Apocrine cystadenoma represents an apocrine hidrocystoma, with proliferative adenomatous intraluminal papillary projections growth showing cytological atypia and a high mitotic index [21]. Hidrocystomas are relatively common benign lesions that affect Middle-aged subjects with equal gender distribution. Chondroid syringoma is composed of both epithelial and mesenchymal components. Clinically, it appears as a non-ulcerating solitary, slowly growing nodule on the head or neck of middle-aged and elderly males.

Malignant skin neoplasms are grouped into either malignant melanomas or non-melanoma skin cancers. Of the non-melanoma skin cancers, basal cell carcinoma and squamous cell carcinoma are the most common types [22]. Likewise, our findings showed that the vast majority (96.9%) of malignant neoplasms were of the Non-melanoma type, most of which were basal cell carcinomas and squamous cell carcinomas. This subject is extensively and repeatedly discussed in the international health literature.

Dermoid and epidermoid cysts are developmental cysts that occur in the head and neck with an incidence ranging from 1.6 to 6.9% [23]. We have found that cysts were distributed into 76 (53.5%) epidermoid and 66 (46.5%) dermoid types. One previous study [24] found a similar pattern although their frequencies of individual types of dermatologic cysts differs

markedly from our findings. They found that 79% of their lesions were epidermoid cysts, 9% were pilar cysts and only 3% were dermoid cysts. Dermoid cysts are relatively rare lesions, with only 1% to 3.5% affecting the head and neck region [25]. Dermoid cysts have been reported to have no obvious gender predilection. Our results showed only a very slight excess of these cysts among males; which generally agrees with previous findings. Furthermore, we have found that the most frequently affected sites with dermatologic cysts was the periorbital area. This differs from findings of a previous series [25] which showed that the cheeks (including upper lips) were the most common location for cysts.

In this work, the vast majority of biopsied infective disease was verruca vulgaris. Human papillomaviruses (HPVs) infect epithelial tissues of skin and mucous membranes. The most common clinical manifestations of HPV infection are verrucae (warts). We have found that verrucae constituted 7.4% of the non-malignant facial skin lesions. This agrees with findings of others [26] and agrees with data about the whole body skin [27]. Verrucae have been reported to have a global prevalence of 122,601,000; ranking 4th among the top 50 most common causes of disease [28], and the 5th skin disease represented in Cochrane Database of Systematic Reviews [29]. Similarly, our results showed that verrucae of facial skin ranked the 6th among all lesions included. Verrucae vulgaris can affect any age but are unusual in infancy. The incidence of whole-skin verrucae increases during school age reaching a peak in adolescence and early adulthood, and declines in the 3rd decade and thereafter [30]. Our results, however, showed that facial skin verrucae had almost equal gender distribution with a frequency highest al the 4th decade of age, and a high predilection to the skin of eyelids and nose

In this work, it was found that inflammatory conditions were infrequent (3%), which contradicts with the general impression that inflammatory conditions are the most common [31]. This can be explained by two factors, the first is a selection bias as inflammatory conditions are rarely biopsied, and are usually diagnosed on clinical grounds and diagnoses are confirmed by response to treatment. The other is due to the fact that skin sites, other than the face, are often selected for biopsy in order to avoid potentially unsightly facial scars. Only solely facial inflammatory skin conditions are biopsied if a clinical diagnosis cannot be stipulated. Therefore, most of the biopsied facial lesions are expected to be of the malformative and proliferative lesions. Our finding are in keeping with this trend

Granulomatous skin disease involves a distinctive inflammatory reaction to numerous inorganic and organic agents. We have found that out of the 31 cases of granulomatous diseases; the most frequent was foreign body reaction lesions (18; 54.5%) with an average age of 33.8 years and a slight female gender predilection. Bansal et al [32] found that out of 64 facial biopsies 18 were of facial granulomatous dermatoses with the majority (88%) being of infectious etiology including leprosy and tuberculosis and an age range from 13–55 years with a male to female ratio 1.6:1. It has been postulated that the major cause of granulomatous diseases in developing countries is infection [33], unlike the spectrum in the developed world, which is either autoimmune or due to other causes.

Since histopathological specimens are usually obtained from either clinically equivocal skin lesions or to cosmetically disturbing lesions that have been excised and submitted for diagnosis, conclusions drawn from histopathologic studies alone suffer from selection bias. However, in the light of the well-known difficulties in the clinical studies on skin lesions arising on the face, the current study on sheds some light on some of the epidemiological aspects of these lesions. Future prospective epidemiological investigations are warranted. Despite the shortcomings of histopathological studies, this work may help both surgeons and pathologists to have a better appreciation of the frequency and variability of dermatologic facial lesions. Furthermore, the study can promote more interdisciplinary consultation within the field. Future prospective clinical studies will concentrate on analyzing epidemiological parameters of the whole spectrum of facial dermatologic lesions.

**Declaration of Interest**

The authors report no conflict of interest.

| Class | Subclass | Non-malignant process | | Malignant process | | Grand total | |
|---|---|---|---|---|---|---|---|
| | | *No.* | *%* | *No.* | *%* | *No.* | *%* |
| *Benign Hematopoietic Proliferations* | Dermatologic lymphoid hyperplasia | 2 | 0.2 | | | 2 | 0.2 |
| *Connective Tissue Disorders* | Dermatologic or Discoid lupus erythematosus | 15 | 1.6 | | | 15 | 1.6 |
| *Dermatologic Lymphopathology* | Jessner's Lymphocytic Infiltrate | 4 | 0.4 | | | 4 | 0.3 |
| *Cyst* | Epidermoid cyst | 76 | 8.1 | | | 76 | 6.2 |
| | Dermoid cyst | 66 | 7.1 | | | 66 | 5.4 |
| | ***Total*** | 142 | 15.2 | | | 142 | 11.6 |
| *Granulomatous Diseases* | Foreign body giant cell reaction | 18 | 1.9 | | | 18 | 1.5 |
| | Chronic granulomatous inflammation | 5 | 0.5 | | | 5 | 0.4 |
| | Others | 6 | 0.6 | | | 6 | 0.6 |
| | ***Total*** | 31 | 3.3 | | | 31 | 2.5 |
| *Hereditary* | Juvenile hyaline fibromatosis | 1 | 0.1 | | | 1 | 0.1 |
| *Infections* | Bacterial | 5 | 0.5 | | | 5 | 0.4 |
| | Fungal | 1 | 0.1 | | | 1 | 0.1 |
| | Parasitic | 4 | 0.4 | | | 4 | 0.3 |
| | Viral | 69 | 7.4 | | | 69 | 5.7 |
| | ***Total*** | 79 | 8.5 | | | 79 | 6.5 |
| *Lichenoid Dermatoses* | Lichen planus | 5 | 0.5 | | | 5 | 0.4 |
| *Metabolic and Depositional Disorders* | Amyloidosis | 2 | 0.2 | | | 2 | 0.2 |
| *Neoplasms* | Adnexal | 70 | 7.5 | | | 70 | 5.7 |
| | Epithelial | 51 | 5.5 | | | 51 | 4.2 |
| | Fat | 45 | 4.8 | | | 45 | 3.7 |
| | Fibrohistiocytic | 16 | 1.7 | 3 | 1 | 19 | 1.6 |
| | Melanocytic | 238 | 25.5 | 4 | 1.4 | 242 | 19.9 |
| | Metastases | | | 2 | 0.7 | 2 | 0.2 |
| | Muscle | 2 | 0.2 | | 0 | 2 | 0.2 |
| | Neural and neuroendocrine | 18 | 1.9 | | 0 | 18 | 1.5 |
| | Non-melanoma | | 0 | 277 | 96.9 | 277 | 22.7 |
| | Vascular | 154 | 16.5 | | | 154 | 12.6 |
| | ***Total*** | 594 | 63.7 | 286 | 100.0 | 880 | 72.2 |
| *Non-specific inflammation* | Non-specific inflammation | 36 | 3.9 | | | 36 | 3.0 |
| *Pilosebaceous Diseases* | Pilonidal sinus | 16 | 1.7 | | | 16 | 1.3 |
| | Rosacea | 3 | 0.3 | | | 3 | 0.3 |
| | ***Total*** | 19 | 2.0 | | | 19 | 1.6 |
| | ***Total*** | 3 | 0.3 | | | 3 | 0.2 |
| ***Grand Total*** | | **933** | **100.0** | **286** | **100.0** | **1219** | **100.0** |

**Table 1.** General distribution of classes of lesions.

| | Class and subclass | Gender | | Age (decade) | | | | | | Total (%) | %Ben | %Malig | %Neo | Facial site | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M | F | 1 | 2 | 3 | 4 | 5 | >5 | | | | | Fh | Eb | El | Io | C | N | Ul | LL | Pa | Ra | Cn |
| Benign | Apocrine cystadenoma | 3 | 3 | 1 | 1 | 0 | 0 | 1 | 3 | 6(8.6) | 1.0 | | 0.7 | 2 | | | 1 | 1 | | | | | | 2 |
| | Chondroid syringoma | 4 | 2 | | 1 | | | 1 | 4 | 6(8.6) | 1.0 | | 0.7 | 1 | | | | 1 | 2 | 1 | | | | |
| | Nevus sebaceous of Jadassohn | 5 | 3 | | 2 | 3 | 2 | | 1 | 8(11.4) | 1.3 | | 0.9 | 1 | | | | 1 | 1 | 2 | | | | |
| | Pilomatricoma | 13 | 18 | 14 | 9 | 4 | 2 | 2 | | 31(44.3) | 5.2 | | 3.5 | | 5 | 4 | | 1 | 1 | | | 12 | 2 | 1 |
| | Sebaceous hyperplasia | 2 | 2 | | | | 1 | 2 | 1 | 4(5.7) | 0.7 | | 0.5 | | | | | | 3 | | | | | |
| | Other adnexal | 4 | 7 | 3 | 1 | 1 | 1 | 2 | 3 | 11(15.7) | 2 | | 1.1 | | 1 | 4 | | | 1 | | | | 1 | |
| | Trichofolliculoma | 2 | 2 | | | | 1 | 1 | 2 | 4(5.7) | 0.7 | | 0.5 | | | | 1 | | 3 | | | | | |
| | Seborrheic keratosis | 27 | 24 | | 3 | 1 | 10 | 6 | 31 | 51(100) | 8.6 | | 5.8 | 4 | 3 | 8 | | 5 | | 1 | | | 3 | 1 |
| | Benign fibrous histiocytoma | | 3 | | | 1 | | 1 | 1 | 3(18.8) | 0.5 | | 0.3 | | | | 1 | 1 | | | | | | |
| | Fibroepithelial polyp | 6 | 3 | 2 | 2 | 4 | | | 1 | 9(56.3) | 1.5 | | 1.0 | 1 | | 3 | | | | | | 3 | 1 | |
| | Xanthoma | 3 | 1 | | 2 | | | 2 | | 4(25) | 0.7 | | 0.4 | 1 | | 3 | | | | | | | | |
| | Compound nevus | 3 | 7 | | 2 | | 4 | 4 | | 10(4.2) | 1.7 | | 1.1 | 1 | 1 | 4 | | | | | | | | |
| | Intradermal nevus | 47 | 168 | 4 | 38 | 63 | 75 | 23 | 12 | 215(90.3) | 36.2 | | 24.4 | 15 | 8 | 18 | 1 | 20 | 40 | 6 | 2 | 2 | 1 | 7 |
| | Junctional nevus | 4 | 9 | 2 | 1 | 5 | 2 | 2 | 1 | 13(5.4) | 2.2 | | 1.4 | 1 | 1 | 2 | 1 | 1 | 2 | | | | | |
| | Neurofibroma | 4 | 8 | | 6 | 3 | 1 | 2 | | 12(66.7) | 2.0 | | 1.4 | 1 | | | | | 2 | 1 | 2 | | 1 | |
| | Schwannoma | 2 | 4 | | 1 | 3 | 1 | 1 | | 6(33.3) | 1.0 | | 0.7 | 1 | | 1 | | | | 1 | | | 1 | |
| | Lipoma | 28 | 17 | 5 | 3 | 11 | 11 | 7 | 8 | 45(100) | 7.6 | | 5.1 | 20 | 2 | 2 | 1 | 8 | 0 | 0 | 1 | 0 | 3 | 2 |
| | Angioleiomyoma | 2 | | | | | | | 2 | 2(100) | 0.3 | | 0.2 | | | | | | 1 | | | | | |
| | Hemangioma | 44 | 45 | 17 | 30 | 17 | 8 | 6 | 11 | 89(57.8) | 15.0 | | 10.1 | 11 | 3 | 16 | 1 | 3 | 9 | 8 | 16 | | 3 | 3 |
| | Pyogenic granuloma | 23 | 30 | 9 | 13 | 8 | 10 | 6 | 5 | 53(34.4) | 8.9 | | 6.0 | 2 | 1 | 2 | | 3 | 5 | 5 | 20 | | | |
| | Other vascualr | 5 | 7 | 2 | 1 | 2 | 5 | 1 | 1 | 12 (7.8) | 2 | | 1.3 | 3 | | 2 | | 1 | | 3 | 2 | | 1 | |
| Malignant | Fibrohistiocytic | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 3 (100) | | 1.0 | 0.3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | Melanoma | 2 | 2 | | | 1 | 1 | 1 | 1 | 4 (100) | | 1.4 | 0.5 | 2 | | 1 | | | | | | | | |
| | Metastases | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 (100) | | 0.7 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | Actinic keratosis | 13 | 22 | | | 2 | 3 | 8 | 22 | 35 (12.6) | | 12.2 | 4.0 | 1 | | 1 | 1 | | 13 | | 9 | | | 1 |
| | Basal cell carcinoma | 50 | 89 | | 3 | 2 | 8 | 27 | 100 | 140 (50.5) | | 49.0 | 15.9 | 6 | 1 | 26 | 2 | 9 | 45 | 11 | 2 | 1 | | |
| | Carcinoma, ous | 7 | 14 | | | | 1 | 4 | 16 | 21 (7.6) | | 7.3 | 2.4 | | 2 | 3 | | 1 | 4 | 1 | 1 | | | |
| | Keratoacanthoma | 10 | 6 | | 2 | 1 | 2 | 5 | 6 | 16 (5.8) | | 5.6 | 1.8 | 1 | | 2 | 2 | 1 | 2 | | | | | |
| | Squamous cell carcinoma | 38 | 27 | | | 1 | 1 | 7 | 56 | 65 (23.5) | | 22.7 | 7.4 | 3 | 2 | 3 | 1 | 4 | 14 | 2 | 18 | | | |

**Table 2.** Neoplasms.

Ben: Benign; Neo: Neoplasms; Fh: Forehead; Eb: eyebrow; El: eyelids; Io: Infraorbital; C: Cheek; Malig: Malignant; N: Nose; Ul: Upper lip; LL: Lower lip; Pa: Preauricular; Ra: Retroauricular; Cn: Chin.

| Subclass | | Gender | | Age (decade) | | | | | | Total | % all | Facial site | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M | F | 1 | 2 | 3 | 4 | 5 | >5 | | | Fh | Eb | El | Io | C | N | Ul | Ll | Pa | Ra | Cn |
| Cysts | Dermoid | 30 | 36 | 32 | 15 | 7 | 7 | 1 | 4 | 66 (46.5) | 5.4 | 7 | 21 | 15 | | 3 | 2 | 2 | 2 | 2 | 7 | 1 |
| | Epidermoid | 52 | 24 | 16 | 12 | 20 | 14 | 7 | 7 | 76 (53.5) | 6.2 | 8 | 8 | 12 | 3 | 9 | 2 | 1 | | 2 | 6 | |
| | Total | 82 | 60 | 48 | 27 | 27 | 21 | 8 | 11 | 142 (100) | 11.6 | 15 | 29 | 27 | 3 | 12 | 4 | 3 | 2 | 4 | 13 | 1 |
| Bacterial infections | Actinomycosis | | 1 | | | | 1 | | | 1(1.3) | 0.1 | | | | | | | | | | | |
| | Leprosy | | 1 | | 1 | | | | | 1(1.3) | 0.1 | | | | | 1 | | | | | | |
| | Tuberculosis-dermatologic | | 3 | 1 | | 1 | | | 1 | 3(3.8) | 0.2 | 1 | | | | 1 | | | | | | 1 |
| Fungal infections | Mucormycosis | | 1 | | 1 | | | | | 1(1.3) | 0.1 | | | | | 1 | | | | | | |
| Parasitic infections | Leishmaniasis | 1 | 1 | 1 | | | | | 1 | 2(2.5) | 0.2 | | | | | | 1 | | | | | |
| | Toxoplasmosis | 1 | 1 | 1 | 1 | | | | | 2(2.5) | 0.2 | | | | | | | | | | 2 | |
| Viral infections | Verruca vulgaris | 39 | 30 | 10 | 15 | 8 | 14 | 10 | 12 | 69(87.3) | 5.7 | 8 | | 14 | | 3 | 19 | 2 | 3 | | | 2 |
| | Total | 41 | 38 | 13 | 18 | 9 | 15 | 10 | 14 | 79(100) | 6.5 | 9 | 0 | 14 | | 6 | 20 | 2 | 3 | | 2 | 3 |
| Granulomatous (Non-infectious) | Cheilitis granulomatosa | 2 | 1 | | | 2 | 1 | | | 3(9.1) | 0.2 | | | | | | | 2 | | | | |
| | Chronic granulomatous inflammation | 2 | 3 | 1 | 1 | 2 | 1 | | | 5(15.2) | 0.4 | | | | | | | | 1 | | | |
| | Foreign body giant cell reaction | 10 | 8 | | 7 | 2 | 1 | 3 | 4 | 18(54.5) | 1.5 | 1 | 1 | 3 | 1 | 1 | 1 | | | | 1 | 1 |
| | Orofacial granulomatosis | | 2 | | | 1 | 1 | | | 2(6.1) | 0.2 | | | | | | | 2 | | | | |
| | Rosacea-granulomatous type | | 1 | | | | 1 | | | 1(3) | 0.1 | | | | | | | | | | | |
| | Sarcoidosis | | 2 | | | 1 | | 1 | | 2(6.1) | 0.2 | | | 1 | | | | | | | | |
| | Total | 14 | 17 | 1 | 8 | 8 | 5 | 4 | 4 | 31(100) | 2.5 | 1 | 1 | 4 | 1 | 1 | 1 | 4 | 1 | | 1 | 1 |
| Non-specific inflammation | | 14 | 22 | 6 | 9 | 6 | 7 | 3 | 4 | 36 | 3 | 1 | 2 | 3 | | 4 | 3 | 2 | 6 | | 1 | 1 |
| Pilosebaceous Diseases | Acne agminata | 1 | | | | | 1 | | | 1 | 0.1 | | | | | | | | | | | |
| | Pilonidal sinus | 13 | 3 | 1 | 3 | 10 | 2 | | | 16 | 1.3 | | | | 1 | | 12 | | | 1 | | |
| | Rosacea | 1 | 1 | | | | | 1 | 1 | 2 | 0.2 | 2 | | | | | | | | | | |
| | Total | 15 | 4 | 1 | 3 | 10 | 3 | 1 | 1 | 19 | 1.6 | 2 | | | 1 | | 12 | | | 1 | | |
| Connective tissue or Degenerative disorders | Dermatologic lupus erythematosus | 3 | 1 | | | | 2 | 2 | | 4 | 0.3 | 1 | 1 | | | 1 | 1 | | | | | |
| | Discoid lupus erythematosus | 4 | 7 | | | 5 | 4 | 1 | 1 | 11 | 0.9 | 3 | | | | 2 | 3 | | | | | 1 |
| | Total | 7 | 8 | 0 | 0 | 5 | 6 | 3 | 1 | 15 | 1.2 | 4 | 1 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 1 |
| Dermatologic lymphomas and hematopathology | Jessner's lymphocytic infiltrate | 3 | 1 | | | | 1 | 2 | 1 | 4 | 0.3 | | 1 | | | 2 | | | | | | |
| Interface dermatoses | Lichen planus | 3 | 2 | | 1 | 1 | 2 | 1 | | 5 | 0.4 | 1 | | | | | | | | | | |
| Vasculitic and vasculopathic disorders | Giant cell arteritis | 1 | | | | 1 | | | | 1 | 0.1 | 1 | | | | | | | | | | |
| | Polyarteritis nodosa | | 1 | | | 1 | | | | 1 | 0.1 | | | | | | | | | | | 1 |
| | Polymorphous light eruption | | 1 | | | | | | 1 | 1 | 0.1 | 1 | | | | | | | | | | |
| | Total | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 0.2 | 2 | | | | | | | | | | 1 |
| Benign hematopoietic proliferations | Dermatologic lymphoid hyperplasia | 2 | | | | | | 2 | | 2 | 0.2 | | | | | 2 | | | | | | |
| Hereditary | Juvenile hyaline fibromatosis | 1 | | | 1 | | | | | 1 | 0.1 | | | | | | | | | | | 1 |
| Depositional disorders | Amyloidosis | | 1 | | | | | | 1 | 1 | 0.1 | | | | | | 1 | | | | | |
| Mucinosis | Focal mucinosis | | 1 | | | | | | 1 | 1 | 0.1 | | | | | | | | | | | |

**Table 3.** Non-neoplastic diseases.

Fh: Forehead; Eb: eyebrow; El: eyelids; Io: Infraorbital; C: Cheek; N: Nose; Ul: Upper lip; Ll: Lower lip; Pa: Preauricular; Ra: Retroauricular; Cn: Chin.

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