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ANALYSIS OF NECK MASSES IN A GROUP OF SYRIAN PATIENTS AT ALMOUWASAT UNIVERSITY HOSPITAL

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ABSTRACT

Objective: This study was done to assess the distribution of neck masses related to gender, age, pathology, and anatomical location. **Materials and Methods:** This study was a retrospective study of the files of the patients who reviewed AlMouwasat University Hospital with neck masses. This study included all cases from January 2016 to November 2019. Statistical analysis was done using SPSS 25.0. **Results:** We had 265 patients with neck masses in our study divided into 55.4% males and 44.6% females. The median age of presentation was 48 years old. 20.7% of all cases were in the pediatric group, 25.3% of all cases were in the young adult group, and 54% of all cases were in the adult group. Lymph nodes were the most common affected tissues in all age groups. Furthermore, in males and females, lymph nodes were the most common affected tissues. Neoplasms were the most common lesions in both genders. **Conclusion:** In our study, the median age of presentation was 48 years old. The age of our patients ranged from 2 months to 89 years old. Lymph nodes were the most common affected tissues in all age groups and in both males and females.

KEYWORDS: Neck Masses, Neoplasms, Syrian Population, AlMouwasat University Hospital.

INTRODUCTION

Neck masses are common in adults, but often the underlying etiology is not easily identifiable. While infections cause most of the neck masses in children, most persistent neck masses in adults are neoplasms. Malignant neoplasms far exceed any other etiology of adult neck mass.[1-3]

As used in this guideline, a neck mass is defined as an abnormal lesion (congenital or acquired) that is visible, palpable, or seen on an imaging study. The Guideline Development Group (GDG) further qualified neck masses as any mass below the mandible, above the clavicle, and deep to the skin, although it may involve the overlying skin secondarily. Neck masses may develop from infectious, inflammatory, congenital, traumatic, benign, or malignant neoplastic processes. Importantly, an asymptomatic neck mass may be the initial or only clinically apparent manifestation of head and neck cancer, such as squamous cell carcinoma (HNSCC), lymphoma, thyroid, or salivary gland cancer. Evidence suggests that a neck mass in the adult patient should be considered malignant until proven otherwise.[1-8]

Timely diagnosis of a neck mass due to metastatic HNSCC is paramount because delayed diagnosis directly affects tumor stage and worsens prognosis.[9-11] Unfortunately, despite substantial advances in testing modalities over the last few decades, diagnostic delays are common. Forty years ago, patients with a neck mass experienced an average of a 5- to 6-month delay from the time of initial presentation to the diagnosis of malignancy.[12] Today, studies continue to report delays as long as 3 to 6 months.[13-15]

The epidemiology and clinical presentation of mucosal HNSCC have changed recently. Coupled with the substantial morbidity and mortality of this disease, metastatic mucosal HNSCC is the focus of this guideline. However, a malignant neck mass can result from other disease entities, including lymphoma, skin, thyroid, and salivary gland cancer. The workup outlined in the action statements of this guideline may be applied to any cancer that has metastasized to the neck without an obvious primary.

Mucosal HNSCC may originate in the oral cavity, oropharynx, hypopharynx, nasopharynx, or larynx. Occult metastatic spread from the primary cancer to the regional lymph nodes and continued tumor growth within the lymph nodes result in a neck mass. In 2016, an estimated 62,000 people will be diagnosed with HNSCC.[16] The incidence of HNSCC of the oropharynx in particular is on the rise—in part as a consequence of infection with the human papilloma virus (HPV). For these reasons, expediting the diagnosis of HNSCC is the

principal quality improvement opportunity of this guideline.

The incidence of HPV-positive HNSCC of the oropharynx has more than doubled, whereas the incidence of HPV-negative cancers has decreased by half.[17] The rate of HPV-positive HNSCC of the oropharynx (tonsil and base of tongue) is rising so rapidly that by 2020 the incidence of HPV-positive oropharyngeal cancer is estimated to exceed that of HPV-positive uterine cervical cancer.[18,19] Patients affected with HPV-positive oropharyngeal HNSCC often present with neck metastasis without an obvious primary malignancy. Two features of HPV-positive HNSCC may contribute to delayed diagnosis. First, as compared with patients with traditional HNSCC that is HPV-negative, patients with HPV-positive tumors are younger and often lack tobacco and alcohol exposure, the two most common classic risk factors. Second, because cervical metastases from HPV-positive HNSCC may be cystic, they are often mistaken for branchial cleft cysts, further contributing to delay in diagnosis.[20,21]

Currently, there is only one evidence-based clinical practice guideline to assist clinicians in evaluating an adult with a neck mass.[8] Additionally, much of the available information is fragmented, disorganized, or focused on specific etiologies. In addition, although there is literature related to the diagnostic accuracy of individual tests, there is little guidance about rational sequencing of tests in the course of clinical care. This guideline strives to bring a coherent, evidence-based, multidisciplinary perspective to the evaluation of the neck mass with the intention to facilitate prompt diagnosis and enhance patient outcomes.

MATERIALS AND METHODS

This study was a retrospective study of the files of the patients who reviewed AlMouwasat University Hospital with neck masses. We collected data regarding the age, gender, tissue origin and lesion type. This study included all cases from January 2016 to November 2019. To ensure the privacy, only the authors collected the data and all the names were blinded. Statistical analysis was done using SPSS 25.0.

RESULTS

Table 1: Variables of our study.

		N	%
Age	≤15	55	20.7
	16-39	67	25.3
	≥40	143	54
Gender	Male	147	55.4
	Female	118	44.6
Neoplasms	Benign	32	20.7%
	Malignant	122	79.3%

We had 265 patients with neck masses in our study divided into 55.4% males and 44.6% females. The median age of presentation was 48 years old. The age of our patients ranged from 2 months to 89 years old. 20.7% of all cases were in the pediatric group, 25.3% of all cases were in the young adult group, and 54% of all cases were in the adult group.

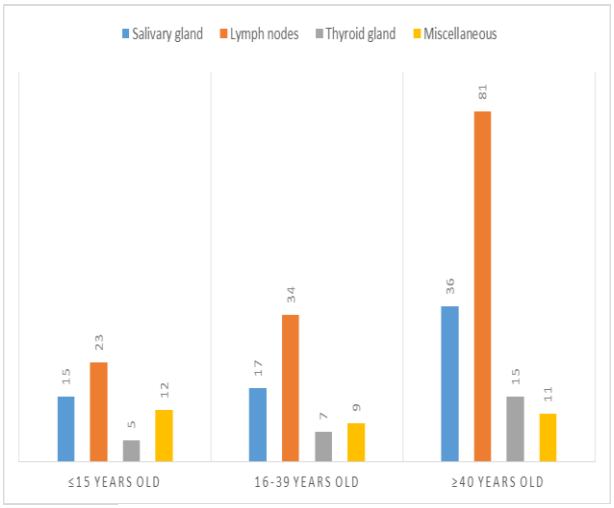

Figure 1: Details of the Distribution of Neck Masses According to Age and Tissue Origin.

In those ≤15 years old, lymph nodes were the most common affected tissue in 42%, salivary glands were the affected tissue in 26% and thyroid gland was affected in 9%. In those between 16-39 years old, the affected tissues were lymph nodes as the most common in 51%, salivary glands in 25% and thyroid in 11%. In patients ≥40 years old, lymph nodes were the most affected tissues in 57%, salivary glands in 25%, and thyroid glands in 10%.

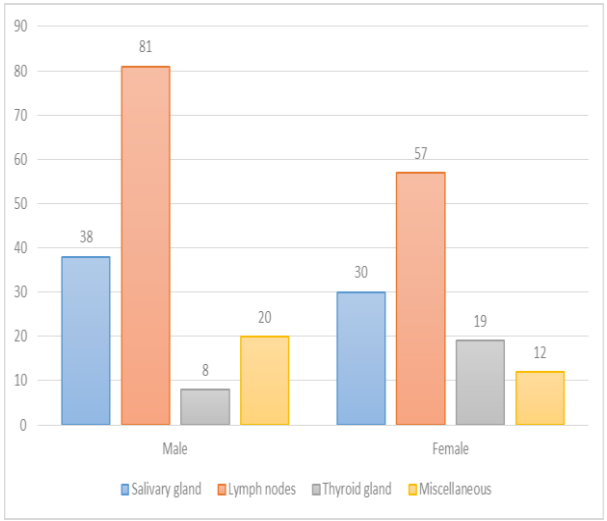

Figure 2: Details of the Distribution of Neck Masses According to Gender and Tissue Origin.

In males, lymph nodes were the most common affected tissues with 55%, salivary glands in 26% and thyroid gland in 5%. In females, lymph nodes were the most common affected tissues with 48%, salivary glands in 25% and thyroid gland in 17%.

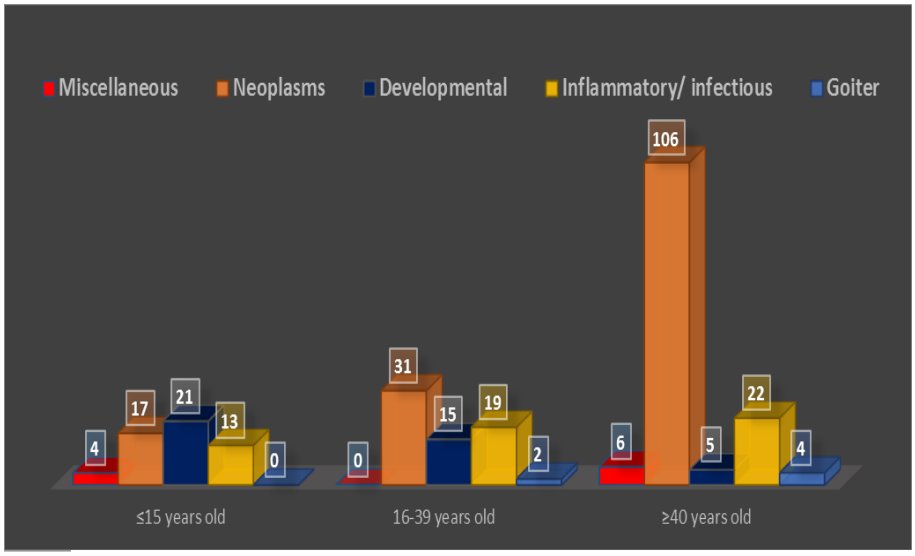

Figure 3: Details of the Distribution of Neck Masses According to Age and Lesion Type.

In the ≤15 years old group, developmental lesions were found in 38%, neoplasms in 31% and inflammatory/ infectious lesions in 24%. In those between 16-39 years old neoplasms were the most common in 46%, the inflammatory/ infectious lesions in 28% and developmental in 22%. Furthermore, in patients ≥40 years old, neoplasms were more prevalent in 74%, inflammatory/ infectious lesions in 15% and developmental in 4%.

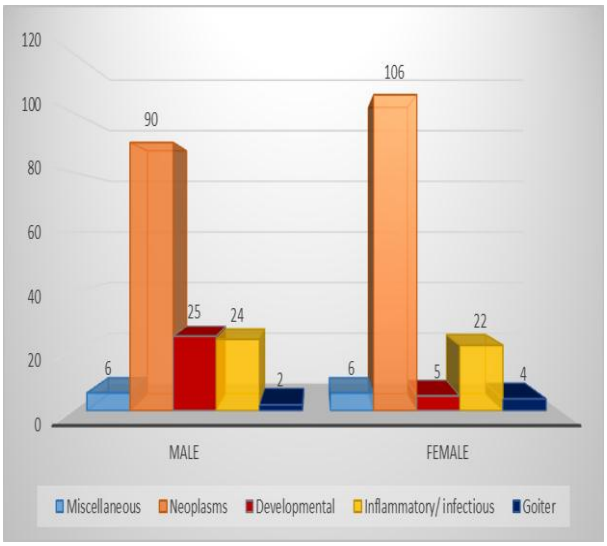

Figure 4: Details of the Distribution of Neck Masses According to Gender and Lesion Type.

Neoplasms were also the most common lesions in both males and females with 62% and 54%, respectively. Inflammatory/ infectious lesions were more common in females than males with 25% to 16%. Developmental lesions were more common in males than females with 17% to 15%.

DISCUSSION

We had 265 patients with neck masses in our study divided into 55.4% males and 44.6% females compared to a similar study[22] which was similar with 51% males and 49% females.

In our study, the median age of presentation was 48 years old compared to 42.1 years old in a similar study.[22] The age of our patients ranged from 2 months to 89 years old, while in a similar study[22], it was from 6 to 83 years old. In a similar study[22], 2.7% of all cases developed in the pediatric group, 38.6% of all cases developed in the young adult group, and 58.7% of all cases developed in the adult group. Whereas in our study, 20.7% of all cases were in the pediatric group, 25.3% of all cases were in the young adult group, and 54% of all cases were in the adult group.

In a similar study[22], lymph nodes were the most common affected tissues in 39.4% of those ≤15 years old and salivary glands were the affected tissues in 9.1%. In those between 16-39 years old, the affected tissues were lymph nodes as the most common in 34.8%, thyroid in 26.8%, salivary glands in 9.4% and parathyroid gland in 3.2%. In patients ≥40 years old, thyroid was the most affected tissue in 43.2%, lymph nodes in 34.1%, salivary gland in 11.8% and parathyroid glands in 3.1%. In our study, in those ≤15 years old, lymph nodes were the most common affected tissues in 42%, salivary glands were the affected tissues in 26% and thyroid gland was affected in 9%. In those between 16-39 years old, the affected tissues were lymph nodes as the most common in 51%, salivary glands in 25% and thyroid in 11%. In patients ≥40 years old, lymph nodes were the most affected tissues in 57%, salivary glands in 25%, and thyroid glands in 10%.

In a similar study[22], in males, lymph nodes were the most common affected tissues with 39.9%, thyroid gland in 28.8% and salivary glands in 11.5%. In females, thyroid was the most common affected tissue with 42.8%, lymph nodes in 28.9% and salivary glands in 10.2%. In our study, in males, lymph nodes were the

most common affected tissues with 55%, salivary glands in 26% and thyroid gland in 5%. In females, lymph nodes were the most common affected tissues with 48%, salivary glands in 25% and thyroid gland in 17%.

In a similar study[22], the inflammatory/ infectious lesions were more common in the ≤15 years old group with 33.3%, neoplasms in 21.2% and developmental lesions in 9.1%. However, in those between 16-39 years old neoplasms were the most common in 42.3%, the inflammatory/ infectious lesions in 24% and developmental in 3.2%. In patients ≥40 years old, neoplasms were more prevalent in 61.1%, inflammatory/ infectious lesions in 18.2% and developmental in only 0.3%. In our study, in the ≤15 years old group, developmental lesions were found in 38%, neoplasms in 31% and inflammatory/ infectious lesions in 24%. The rise in neoplasms as with the rise in age is concordant with the results of literature. In those between 16-39 years old neoplasms were the most common in 46%, the inflammatory/ infectious lesions in 28% and developmental in 22%. Furthermore, in patients ≥40 years old, neoplasms were more prevalent in 74%, inflammatory/ infectious lesions in 15% and developmental in 4%.

In a similar study, neoplasms were the most common lesions in both males and females with 61.3% and 43.8%, respectively. Inflammatory/ infectious lesions were more common in females than males with 28.1% to 13.9%. Developmental lesions were more common in males than females with 2.4% to 0.8%. In our study, neoplasms were also the most common lesions in both males and females with 62% and 54%, respectively. Inflammatory/ infectious lesions were more common in females than males with 25% to 16%. Developmental lesions were more common in males than females with 17% to 15%.

CONCLUSION

In our study, the median age of presentation was 48 years old. The age of our patients ranged from 2 months to 89 years old. Lymph nodes were the most common tissues affected in all age groups. Furthermore, lymph nodes were also the most common affected tissues in both genders. In the ≤15 years old group, developmental lesions were the most common. In those between 16-39 years old neoplasms were the most common. In patients ≥40 years old, neoplasms were more prevalent in 85%. Neoplasms were the most common lesions.

Compliance with Ethical Standards

Funding: This study was not funded by any institution.

Ethical approval: The names and personal details of the participants were blinded to ensure privacy.

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