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Histopathological Patterns of Squamous Cell Carcinoma Among Patients Attending At UNISO Hospital, Mogadishu-Somalia

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Abstract

Background

One of the most prevalent malignancies affecting the skin, oral cavity, cervix, and other epithelial surfaces is squamous cell carcinoma (SCC), a malignant tumour derived from squamous epithelial cells. The gold standard for diagnosing and classifying SCC is still histopathological analysis of biopsy tissues.

Objective

To identify the squamous cell carcinoma histological patterns in biopsy specimens analysed at UNISO Hospital in Mogadishu, Somalia.

Methods

At UNISO Hospital, a retrospective cross-sectional investigation was carried out. Squamous cell carcinoma-diagnosed biopsy specimens were examined. Haematoxylin and eosin-stained histological slides were examined for invasion patterns, keratinisation, cellular atypia, and tumour differentiation.

Findings:

The results indicate that the majority of patients were older than 50 years, accounting for 61 patients (61.0%), making this the most affected age group. This is followed by patients aged 41–50 years, who represented 26 patients (26.0%).

Introduction

Oral squamous cell carcinoma (OSCC), a prevalent subset of head and neck squamous cell carcinoma (HNSCC), is diagnosedwith locally advanced disease in more than 60% of patients Surgical resection followed by adjuvant radiotherapy with or without chemotherapy has been recommended as the standard of care for patients with locally advanced OSCC. However, the prognosis of this subset of patients remains poor, with a high risk of recurrence or metastasis. Their 5-year overall survival (OS) rate is still less than 50% (1). Esophageal cancer ranks seventh among the most commonly diagnosed cancer and sixth among the most cancer-related deaths in the world, Although previous results of first-line treatment have confirmed the feasibility and safety of immuno-therapy(2). SCC is the second most common histological type of NSCLC (after adenocarcinoma), accounting for approximately 20% of lung cancers. In the vast majority of patients, SCC is associated with smoking. Although classically a centrally located tumour, peripheral-type SCCs have been described and now account for approximately one third of lung SCCs(3). Currently, first line treatment for patients with advanced or metastatic oesophageal

squamous cell carcinoma is limited to platinum based chemotherapy. Platinum plus paclitaxel is commonly used in China whereas platinum plus 5-fluorouracil is preferred in other countries(4). Squamous cell carcinoma of the head and neck (SCCHN) region is one of the more chemotherapy-sensitive human neoplasms. Response rates approaching 70% have been reported with single- agent treatment, and recent reports demonstrate that overall response rates and complete response rates approaching 90% and 60% respectively are achievable(5).

The International Agency for Research on Cancer (IARC) estimates that there were about 450,000 cases of esophageal cancer in 2012: 88% cases of ESCC and 12% cases of EADC2. The geographic distribution of ESCC varies greatly, with more than 10-fold differences between countries(6). The incidence of lung squamous cell carcinomas (LUSC) relative to adenocarcinomas has decreased since the 1990s in many industrialized countries

due to the efforts of smoking cessation programs, Although there are major breakthroughs in cancer therapeutics, treatments that are specific to LUSCs are lacking, leaving advanced-stage patients with few treatment options.

In recent years, the introduction of programmed death-1 (PD-1) programmed death-ligand 1 (PD-L1) inhibitors has made a tremendous impact in patients with NSCLC, particularly those with early-stage disease(7). Esophageal cancer ranks as the 6th most common cause of cancer death worldwide, with 456,000 new cases and 400,000 deaths annually, Nearly 90% of esophageal cancer cases worldwide are esophageal squamous cell carcinoma (8). Head and neck squamous cell carcinoma (HNSCC) is ranked as the seventh most common cancer in the world and has been frequently linked to tobacco and alcohol use, as well as human papillomavirus (HPV), Helicobacter pylori and Candida albicans infections(9). Head and neck squamous cell carcinomas (HNSCCs) encompass a heterogenous group of tumors arising from mucosal epithelia of the oral cavity, pharynx, and larynx, Most patients present with locally advanced disease, and risk of recurrence and distant metastasis is high(10). Nonmelanoma skin cancer (NMSC) is the most common form of cancer seen in the Caucasian population, The

term NMSC can theoretically be applied to all cutaneous cancers excluding melanoma, however, it is most commonly used to refer to the two major types of skin cancers: basal cell carcinoma (BCC), and cutaneous squamous cell carcinoma (SCC). Together these forms account for over 95% of all NMSC, with SCC accounting for approximately 20% of all cutaneous malignancies(11). Although cSCC is one of the most common skin cancers, reported having 1 million cases per year in the United States, there is inconsistency with its reported metastatic rate, Research exploring cSCC metastasis found an overall rate of 1.2–5% but this range varies, and some dermatologists are finding cSCC's ability to spread more worrisome(12). Squamous cell carcinoma (SCC) is one of the most common oral cavity cancers in the world, However, the majority of these types of malignant tumors occur in the tongue especially in the lateral part, They are characterized by early lymph node metastasis, rapid local invasion, a pain-burning sensation of the tongue, and poor prognosis, Smoking and drinking are considered risk factors that can increase the chance of having such type of cancer(13). Cervical cancer is the second-most common

cancer in women worldwide and the most common cause of cancer-related death in women, About 99.7% of these cervical cancers are associated with Human Papilloma Virus (HPV), particularly high-risk

HPV (HR-HPV), Stem cells exist in niches in the cervical tissue at squamocolumnar junction, which when infected with HR-HPV or affected by any risk factors, undergo malignant transformation to Cancer Stem Cells (CSC). These CSCs have the properties of multilineage differentiation, self-renewal, slow-cycling capacity, recurrence,

and tumorigenicity(14). The 5-year survival rate of ESCC patients remains low at only 15–25% because of local invasion and distant metastasis despite of intensive clinical efforts by combining multiple therapeutic approache, Therefore, it is urgent to understand the molecular mechanisms underlying ESCC tumor progression. Long non-coding RNAs (lncRNAs) are known to lack protein-coding function(15).

Methods

At UNISO Hospital, a retrospective cross-sectional investigation was carried out. Squamous cell carcinoma-diagnosed biopsy specimens were examined. Haematoxylin and eosin-stained histological slides were examined for invasion patterns, keratinisation, cellular atypia, and tumour differentiation.

Findings

The results indicate that the majority of patients were older than 50 years, accounting for 61 patients (61.0%), making this the most affected age group. This is followed by patients aged 41–50 years, who represented 26 patients (26.0%).

Younger age groups contributed much smaller proportions, with 31–40 years accounting for 6 patients (6.0%), 10–20 years for 4 patients (4.0%), and 21–30 years for 3 patients (3.0%). the gender distribution of the patients included in the study A total of **100 patients (100%)** were analyzed, of which **57 were males (57.0%)** and **43 were females (43.0%)**. The findings show that the **highest proportion of patients came from Lower Shabelle**, accounting for **27 patients (27.0%)**, followed by **Middle Shabelle with 20 patients (20.0%)**, and **Hiiraan with 15 patients (15.0%)**. These regions represent the main sources of patients in the study. Other regions contributed smaller proportions, including **Banaadir (8.0%)**, **Jubaland (7.0%)**, **Ethiopia (6.0%)**, **Mudug and Baay (each 5.0%)**, **Kenya (4.0%)**, and **Bari (3.0%)**. The findings indicate that the **majority of tumors were poorly differentiated**, accounting for **54 patients (54.0%)**, making this the most common category. This is followed by **moderately differentiated tumors in 29 patients (29.0%)**, while **well-differentiated tumors were the least common**, observed in **17 patients (17.0%)**. The findings indicate that the **majority of tumors were deeply invasive**, accounting for **69 patients (69.0%)**, while **superficial invasion was observed in 31 patients (31.0%)**. The results show that **43 patients (43.0%)** had **positive lymph vascular invasion**, while **57 patients (57.0%)** had **no evidence of lymphovascular invasion**. The results indicate that **93 patients (93.0%)** had **no evidence of distant metastasis**, while only **7 patients (7.0%)** presented with **metastatic disease.** The findings show that the **most common complaint was progressive dysphagia**, reported by **46 patients (46.0%)**, making it the

leading symptom in the study population. This is followed by **gastric outlet obstruction (9.0%)**, and both **bilateral breast masses and abdominal mass (7.0% each)**. Other complaints included **thyroid swelling (6.0%)** and **chronic cough with dyspnea (6.0%)**, while **abdominal pain with fatigue, fatigue with weakness and abdominal pain, and cervical lymphadenopathy** were each reported by **5 patients (5.0%)**. The least common complaint was **tongue ulcer**, observed in **4 patients (4.0%)**. The findings show that the **most commonly used treatment was chemotherapy alone**, which was administered to **59 patients (59.0%)**. This was followed by **chemotherapy combined with surgery**, given to **30 patients (30.0%)**, indicating a multimodal treatment approach in a significant proportion of cases. In addition, **palliative care** was provided to **11 patients (11.0%)**, suggesting a smaller group of patients presented with advanced disease where curative treatment was not feasible. The results show that the majority of patients had a **poor outcome**, where **80 patients (80.0%)** died during the study period. In contrast, only **20 patients (20.0%)** showed improvement.

Table 1: age of the patient

		Frequency	Percent
Valid	10-20	4	4.0
	21-30	3	3.0
	31-40	6	6.0
	41-50	26	26.0
	>50	61	61.0
	Total	100	100.0

This table above shows age distribution

Table 2 : Patient regions

		Frequency	Percent
Valid	lower shabeele	27	27.0
	middle shabeele	20	20.0
	Banaadir	8	8.0
	Mudug	5	5.0
	Bay	5	5.0
	Bari	3	3.0
	Jubaland	7	7.0
	Kenya	4	4.0
	Hiiraan	15	15.0
	Ethiopia	6	6.0
	Total	100	100.0

This table above shows patients regions

Discussion

This study demonstrated that SCC predominantly affects older individuals, particularly those above 50 years of age. This finding is consistent with global data, where the incidence of SCC increases with age due to prolonged exposure to risk factors. The predominance of moderately differentiated SCC aligns with studies conducted in other developing countries. This may reflect delayed diagnosis and limited access to healthcare services.

Conclusion

For the diagnosis and categorisation of squamous cell carcinoma, histopathological analysis is still crucial. The most frequent histological pattern found in biopsy specimens at UNISO Hospital in this investigation was well-differentiated SCC. Improving patient outcomes requires early detection and precise histological assessment.

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the Declaration of Helsinki.

Ethical approval was obtained from the Ethical Review Board Committee of the Uniso Hospital, (Ref No: UNISO HOSPITAL/UHDO/UH-0656/125, dated 3 May 2026).

Written informed consent was obtained from all participants included in the study. A waiver of informed consent was granted for the retrospective data review where applicable

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Saciid Abdullahi Abshir, ciise Mohamuud Mohamed, Hussein Abshir Hassan, and Khasim Haji Hussein . The first draft of the manuscript was written by Saciid Abdullahi Abshir and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Figures

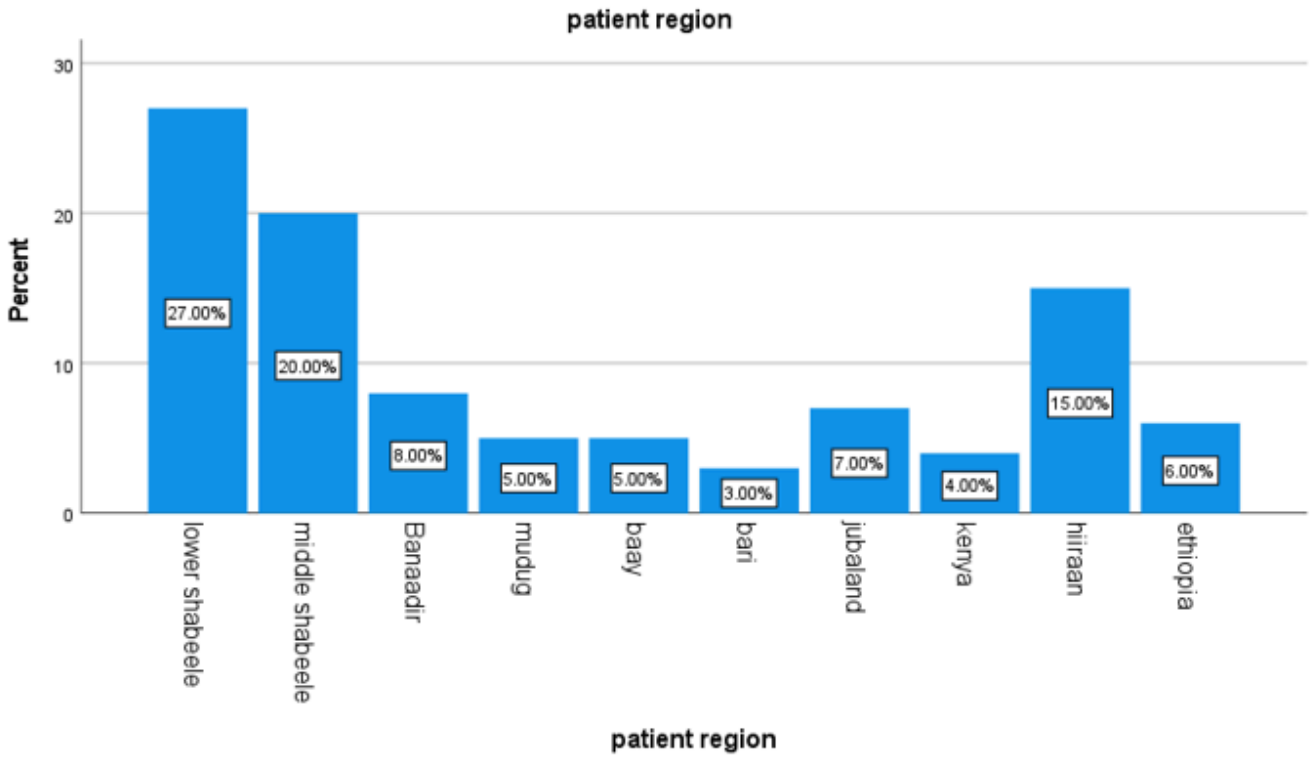


Figure 1

This figure above shows patient regions