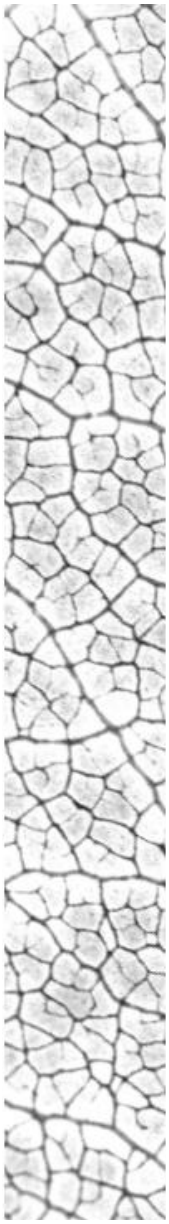

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The correlation between Mmp7 and fox protein marker in oral sequamou cell carcinoma

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Abstract

In Iraqi patients with Oral Sequamou cell cancer, little is understood about the expression of Mmp7 and Fox protein. Fox 's positive expression was significantly associated with the location (p=0.016) and clinical appearance. Positive expression of Fox has been noted in all cases of oral sequamoucell carcinomacases that represent their essential function in inflammation, indicating that it can be used as inhibitors for head and neck malignancies to improve anti-inflammation therapies.Oral sequamou cell carcinoma mucocutaneous uncertain cause (of a disease) with an ability (to hold or do something) for harmful change is considered to be oral oral sequamous cell cancer. In Iraqi patients with Oral Sequamou cell cancer, little is understood about the expression of Mmp7 and Fox protein. The current research was aimed at assessing the expression of Mmp7 and Fox protein in the portion of Oral oral sequamou cell carcinomausing immunohistochemical teqnique in Iraq. Parts of 22 embedded formalin-fixed paraffin blocks of Oral oral sequamou cell carcinomawere immunostained to determine the expression of Mmp7 and Fox. The term Mmp7 and Fox in both oral sequamou cell carcinomacases was positive (100 percent). Fox 's positive expression was significantly associated with the location (p=0.016) and clinical appearance (p-value=0.003). The positive expression of Mmp7 was substantially statically associated with the location of tumors (p-value = 0.002). There was a non-significant association between Mmp7 and Fox, on the other hand (p-value=0.021). The positive expression of Mmp7 And Fox has been noted in all cases of oral sequamou cell carcinomacases that represent their essential function in inflammation, indicating that it can be used as inhibitors for head and neck malignancies to improve anti-inflammation therapies.

Keywords: OSCC, mmp7, fox, IHC technique, HPV infection

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INTRODUCTION

Oral squamous cell carcinoma (OSCC) is obviously more human crowds and simple evidence. Nevertheless, recent oral cancer data suggest that p16INK4A promotes a little bit of the identification in OSCCs (Neville Damm Allen 2009) through the expansion of various expressions and dangerous risks of HPV infection. Oral scale such as cell cancer in medicinal presentations can cause significant harm to the present body parts In multiple spheres of the mouth and very difficult to examine (Hussain, 2010). Identifying a disease or early-scale cell cancer issue based on the main terms, cautious watchfulness and feeling that something is wrong or wrong, but without evidence (Mohammed 2008). Early damage to body parts is commonly assumed to be the typical white patch for presentation modes without symptoms, Redness of the skin and small hardened painful sore, white patch displayed painful sore in the early stages and thought regarding assuming as small exophytic growth (Al-Qazzaz 2012). And with the significant improvement in the area of revelation and the existence of treatment forms, the average 5-year survival rate (OSR) stagnates at just 30-60% over a 50-year period (Xavier, et al. 2008).). Late injury to a portion of the body develops as a rugged exophytic mass with a nodular mass consistent with the death of skin or other elevated surface edges of living tissue. Patients with mild oral cell cancer are normal with advanced, unexpected, local symptoms of illness (Kubiczkova, et al. 2012). OSCC 's typical medicinal signs can be outlined in erythroplakia, leukoplakia, and erythroleukoplakia (Loeffler, & Wolf, 2014). Tumor size and the spread of OSCC's spread of disease are the best indicators of the outlook of the patient. Staging the condition represented by these medicine-based guidelines (Massague, 1998) Puts these restrictions in numbers. The method of assessing the importance, quantity, or quality of something

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Table 1. mmp7 protein IHC expression in oral sequamou cell carcinoma cases

mmp7 protein score*	No.	%
1	4	13.4%
2	11	36.85%
3	15	49.75%
Total	30	100%

*1 (weak expression), 2(moderate expression), 3(strong expression)

dependent on medicine dependent on taking a sample of living tissue for the stage of study, imagining the specific areas in the body that combat disease linked to a wide region and places that are remote. The aim of the study is The correlation between mmp7 and fox protein marker in oral sequamou cell carcinoma.

MATERIALS AND METHODS

The study included 22 Sample detected and confirmed by two specialized pathologists as oral oral sequamou cell carcinoma. The study group and control collected from private laboratories in Baghdad. Sections prepared from each samples with thickness of 4µm on glass slides positively charged, in order to prepared it for immunohistochemistry staining with mmp7 and fox protein marker monoclonal antibodies. These study groups and control subjected to IHC determination.The study involved 22 samples identified and confirmed as oral oral sequamou cell carcinoma by two specialist pathologists after analyzing sample collection parts using Hematoxylin and Eosin (February 2018 to March 2019). The research and test party gathered in Baghdad from private laboratories. In order to prepare it for immunohistochemistry staining with mmp7 and fox protein marker monoclonal antibodies, parts prepared from each 4µm thick sample on glass slides were positively charged (Bandyopadhyay et al. 2006). The research group portion deparaffinized at 90oC for 50 minutes then backed slides sequentially submerged with the following solutions for immunohistochemistry determination: xylene for 20 minutes, pure ethanol for 7 minutes, 70 percent ethanol for 10 minutes, eventually purified water DW for 10 minutes. Ses research groups and controls were subject to IHC identification using the polyclonal anti-mmp7 and fox protein marker (Abcam 2013), followed by the immunohistochemistry marker protocol (Marsh 2006). Speech analysis of mmp7 and fox marker proteins.

The percentage of mmp7 and fox protein marker expression measured using the amount of positive cells with brown staining and called poor staining, mild staining (25 percent); heavy staining (50 percent) and strongly heavy staining (over 50 percent) as semi quantitatively using a scoring system (Marsh 2006, Marcotte, Lavoie 2008), the scoring outcomes Statistically Analyzed using mean ± S.D. For Areas of analysis and monitoring areas.

RESULTS AND DISCUSSION

Antigen-antigen interaction can be visualized using chromogenic detection and or fluorescent detection (Thylstrup, Fejerkov 2004, Devore, 2010). The highly specific of antibodies make it bind only to the interest protein in the section of tissue. Protocol of IHC-Paraffin (IHC-P) refers to the tissues staining of that have been formalin fixed and then before being sectioned embedded in paraffin (Nur *et al. 2012*, Willcox, Drucker, Green 2009).

Evaluation of mmp7 protein Immunohistochemistry:

Positive mmp7 protein In all instances of oral sequamous cell carcinoma, immune staining was observed as brown membranous or membranous and cytoplasmic expression (Minah et al. 2011). **Fig. 1** mmp7 immuno staining of the cases of oral sequamou cell carcinoma was summarized in **Table 1** indicating that (4) cases (13.4%) showed poor positive expression, (11) cases (36.85%) had mild positive expression and (15) cases (49.75%) had heavy positive expression.

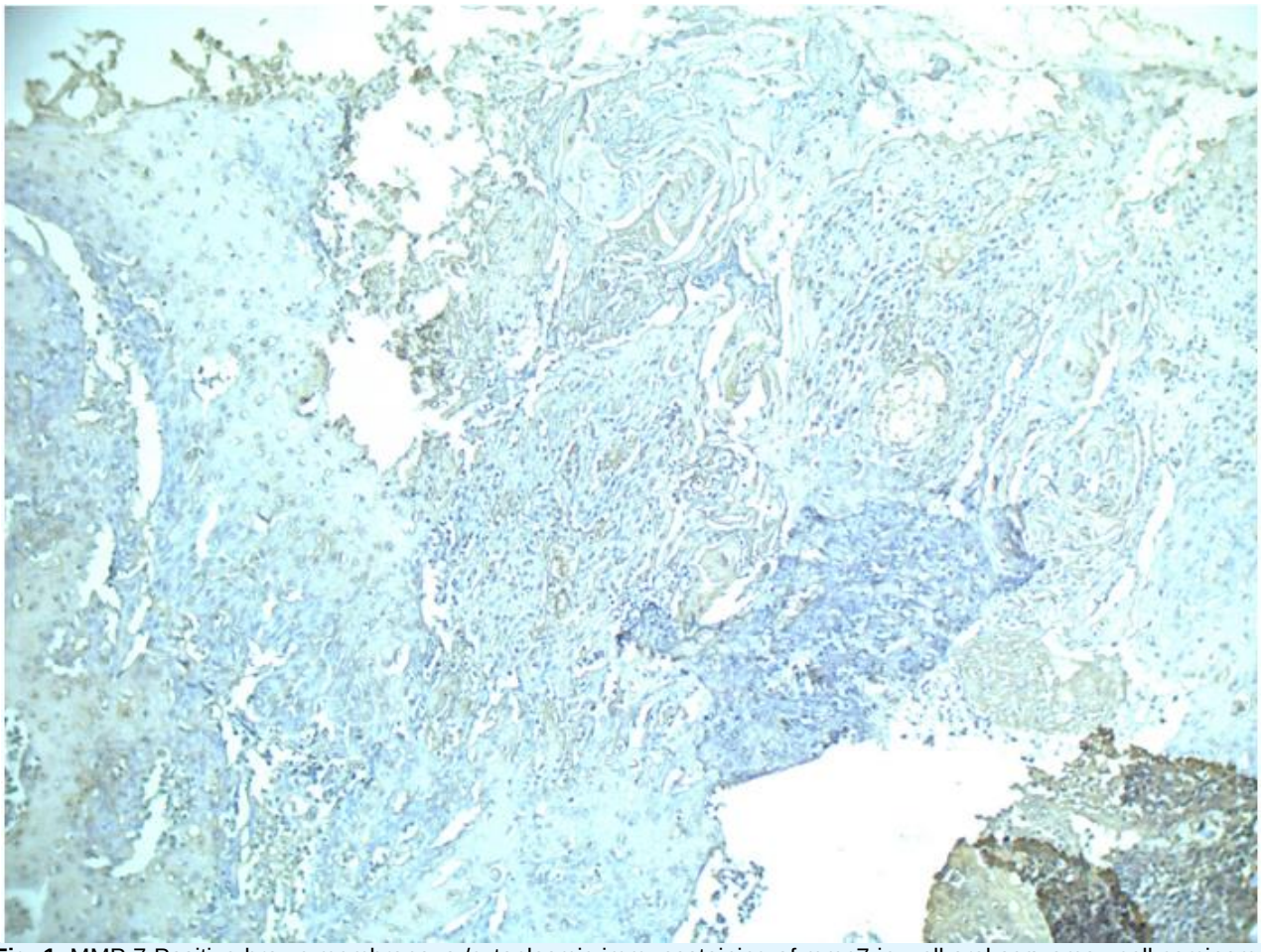

Fig. 1. MMP 7 Positive brown membranous /cytoplasmic immunostaining of mmp7 in well oral sequamou cell carcinoma (40X) (Smith, Taubman, Ebersole 2007)

Table 2. Fox expression in oral sequamou cell carcinoma cases

fox score*	No.	%
1	4	13.4%
2	11	36.85%
3	15	49.75%

*1 (weak expression), 2(moderate expression), 3(strong expression).

Positive immunostaining of the fox was observed as tissue cells staining in the brown nucleus (Henry, Hayes 2006, Harris et al. 2007). **Fig. 2**. Fig. Good IHC expression was observed in all oral sequamou cell carcinoma cases as seen in **Table 2**, which shows that (5) cases (10.0%) showed poor positive expression, (9) cases (30.0%) showed moderate positive expression, and (18) cases (60.0%) showed heavy positive expression.

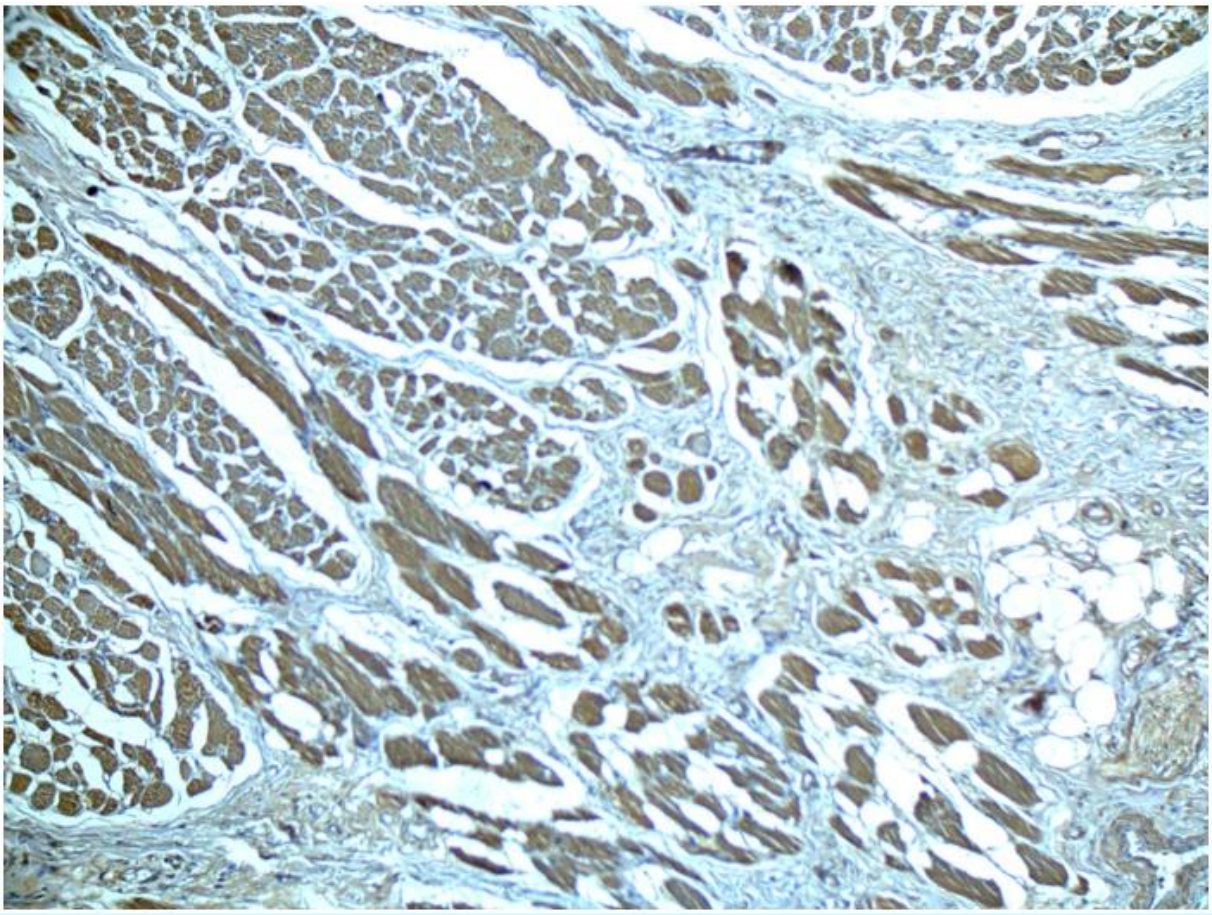

Fig. 2. Fox Positive brown nucleus immunostaining of fox in moderate differentiated oral sequamou cell carcinoma (OLP). (40X) (Al-Tekreeti, et al. 2017)

Table 3. The correlations between the IHC markers in the oral sequamou cell carcinoma (OLP)

Marker	Mmp7	fox
mmp7	Pearson Correlation	_
	Sig. (2-tailed)	
	No.	22
fox	Pearson Correlation	0.253
	Sig. (2-tailed)	0.001
	No.	22

***P <0.001

Statistical correlations of all studied immunohistochemistry IHC markers

Pearson's correlation between two variables is known as the covariance of the two variables separated from the factor by their standard deviations (Nouri, et al. 2015, Hussain, et al. 2017. Hussain, et al. 2017). As seen in **Table 3**, the relationship between fox and mmp7 markers in oral sequamous cell carcinoma was statically analyzed based on the Pearson correlation, And the correlation mode of fox and mmp7 between chance markers (p 0.001) was important, as seen in **Table 3**.

This result was consistent with earlier studies. This indicates that mmp7 protein could be involved in mitoses found in squamous cells with oral squamous cell carcinoma (Rassin, Nemat, Dheeb, 2015, Dheeb, et al. 2014, Ibrahim, et al. 2017). It has been shown that mmp7 protein facilitates the development with cancer cell proteinases and stimulates their invasive potential. The mmp7 protein released by cancer cells should be expected to activate the cancer cells themselves and/or the fibroblasts for cancer invasion and growth (Bander, et al. 2015, Dheeb, et al. 2015). Several evidence shows that the mmp7 protein pathway leads to the redundancy found in oral sequamou cell carcinoma and may function as a growth factor for paracrine / autocrine fashion carcinoma of the oral sequamou cell carcinoma, Activating intracellular pathways and eventually causing cells to proliferate, resist apoptosis, or become indifferent" "Immunohistochemical analysis of mmp7 protein expression has shown that anti-mmp7 protein neutralization therapy accumulated around oral sequamou cell carcinoma cells (El-Hilali, et al. 2016, Abdulbaqi, & Dheeb, & Irshad, 2018). This also suggests that the mmp7 protein released by cancer cells

promotes autocrine invasion of their own, thus promoting the proliferation of adjacent fibroblasts in paracrine fashion (Hussain et al. 2018). Thus, oral oral sequamou cell carcinoma cells with higher invasion potential displayed higher mmp7 protein expression, which means that the level of mmp7 protein expression is an indication of malignancy of oral sequamou cell carcinoma (Dheeb et al. 2019).

The current result is consistent with previous reports. This indicates that mmp7 protein may be involved in the divisions that appear in the squamous cells of oral squamous cell carcinoma (Hussein, Dheeb Hamada, 2019). The protein boosts the production of proteins in cancer cells and enhances their penetration capacity (Dahham, Omar, Dheeb 2019, Hussain, et al. 2020, Dheeb, 2015). It can act as a growth factor in oral sequenced oral cell carcinoma by mouth in the form of an isotope / autocrine, activating intracellular pathways and ultimately leading to cell proliferation, avoidance of apoptosis or becoming insensitive. The protein expression level of mmp7 is an indicator of Sequamou Cell's oral metastasis score (Hammadi, et al. 2019, Hamoody, Abood, Dheeb, 2020).

CONCLUSION

We concluded from the study that there is high correlation between Mmp7 and Fox in the patient with oral Sequamou Cell Carcinoma and the mmp7 and fox show high strong Expression.

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