

The Role of Human Epidermal Growth Factor Receptor 2 (HER2/neu) in Mucoepidermoid Carcinomas

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Sir,

This letter is a comment on the paper of Alotaibi et al., entitled "Human Epidermal Growth Factor Receptor 2 (HER2/neu) in Salivary Gland Carcinomas: A Review of Literature" in the second issue of *J Clin Diagn Res* 2015 [1]. It seems that this review of the literature has a bias on the correlation between histological grade and prognosis in patients with mucoepidermoid carcinoma (MEC) and HER2 oncoprotein. This paper only refers to studies that mention the role of HER2 gene abnormality in development of high grade MEC. Positive expression of HER2 has been shown in patients with high grade MEC and low grade carcinoma has been associated to negative or weak staining of HER2. On the other hand over-expressing of HER2 oncoprotein related with aggressive tumour behaviour and is considered as an independent factor for poor prognosis [1]. Meanwhile, studies on the role of HER2 oncoprotein in MEC have been contradictory; our study reported HER2 expression level from 0 to 100 percent in MEC [2]. Also, some studies have shown that histopathologic grade of mucoepidermoid carcinoma is reduced with increase in HER2 expression [2,3]. Causes of different results of the relation of histopathological grade with expression of HER2 listed as variation of patient's selection and differences in scoring and definition of HER2 overexpression [2]. Also, Santini et al., and da Cruz Perez et al., have not achieved a significant correlation between the prognosis of patients with MEC and over-expression of HER2 [4,5]. In another study, Lopes et al., has correlated decreased HER2 expression with regional metastasis and reduced overall survival rate [3]. Therefore to determine the role of HER2 in prognosis of patients with MEC, studies with great populations and more clinical and demographic factors are needed.

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Editorial note: The letter was sent for review as well as to the author of the original article. We did not receive reply from the author, however, the reviewer sent his opinion which is attached below;

Reviewer's comment on the letter: Receptor tyrosine-protein kinase ErbB-2, oncogene Neu, Erbb2 (rodent), or ERBB2 (human) is a protein that in humans is encoded by the ERBB2 gene, which is also frequently called HER2 (from human epidermal growth factor receptor 2) or HER2/neu [1]. Khiavi MM et al., in their manuscript predominantly used the terminology "c-erbB-2" [2]. Hence a literature search by the keyword "HER2/neu and mucoepidermoid carcinoma" using "MEDLINE accessed via the National Library of Medicine PubMed interface" as done by reviewer of the article "Human Epidermal Growth Factor Receptor 2 (HER2/neu) in Salivary Gland Carcinomas: A Review of Literature" [3] may not find the study of Khiavi MM et al., [2]. Therefore this omission may not indicate "a bias on the correlation between histological grade and prognosis in patients with mucoepidermoid carcinoma (MEC) and HER2 oncoprotein", as mentioned by author/s of the "Letter to Editor". However, as the third authors mention "ErbB-2" as a keyword in their "Review article", an appropriate search using Pubmed by this keyword should have been performed before preparation of the manuscript.

Author/s of "Letter to Editor" have mentioned that "studies on the role of HER2 oncoprotein in MEC have been contradictory" and concluded that "to determine the role of HER2 in prognosis of patients with MEC, studies with great populations and more clinical and demographic factors are needed". Therefore observations of

those studies that were mentioned in the review [4-7] regarding mucoepidermoid carcinoma of salivary glands for evaluation of HER-2/neu may be different.

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