

CK19 is one of the low molecular weight keratin. It is known to be resistant to denaturation and the preservation of its reactivity has been reported even in necrotic tumor tissue ⁽¹¹⁾.

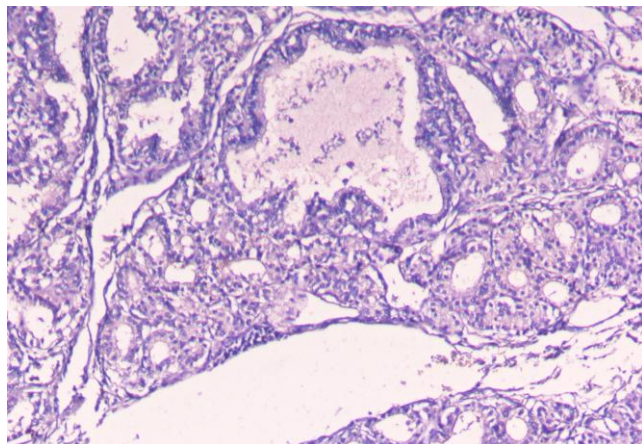


Fig. 4. Another view showing faint or absent staining with CK19 in Grave's disease (CK19, X100)

Diffuse and strong staining with low molecular weight keratins has been reported in thyroid papillary carcinoma ^(12,13).

In this study, 16 of the papillary carcinoma group exhibit diffuse intense cytoplasmic staining for CK19 and seven of ten Grave's cases are completely negative while the three remaining cases showed diffuse, faint immunoreactivity.

The results of current study agree with other studies like Suna et al ⁽⁵⁾ that demonstrated that the vast majority of papillary carcinoma exhibit diffuse intense cytoplasmic staining for CK19 whereas majority of Grave's cases are completely negative.

Table 2. Extent of staining of CK19 in papillary carcinoma and Grave's disease.

Extent	Papillary carcinoma		Graves	
	No	%	No	%
0	1	5	6	60
+1	1	5	2	20
+2	3	15	2	20
+3	15	75	0	0

$P = 0.005$

The weak immunoreactivity in Grave's disease may be similar to the pale staining reported previously by Sahoo et al and Bennet et al in follicular adenoma ^(1,14).

Table 3. Intensity of staining of CK19 in papillary carcinoma and Grave's disease.

Extent	Papillary carcinoma		Graves	
	No	%	No	%
0	1	5	8	80
+1	22	10	2	20
+2	17	85	0	0

$P = 0.0001$

The results of this study is in agreement with others like: El Demallowy et al ⁽²⁾ who showed that 85% of cases of papillary carcinoma were positive for CK19 and with Cheung et al ⁽³⁾ who reported diffuse CK19 staining in 80% of papillary thyroid carcinoma and with Baloch and Coworkers ⁽¹⁵⁾ who showed that all cases of papillary thyroid carcinoma were positive for CK19 and with Shin et al ⁽¹⁶⁾ who showed that 80-90% of cases were positive for CK19 and with Theresa et al ⁽¹⁷⁾ who showed that 96% of cases were positive for CK19.

Benign thyroid lesions such as follicular adenomas and multinodular goiter with papillary formations are generally negative for CK19, but may sometimes show faint staining.

This low molecular weight cytokeratin has also proved to be effective in discriminating papillary carcinoma from multinodular goiter exhibiting papillary formation and follicular adenoma ⁽⁶⁾. Focal and pale staining with CK19 may be seen in follicular adenoma and multinodular goiter with papillary formation ⁽¹⁸⁾. The vast majority of cases of follicular adenomas exhibit no or focal staining with CK19 ^(1,5,14). CK19 immuno-histochemical staining revealed no or focal expression in the majority of cases of papillary hyperplasia ^(19,20).

In conclusion the staining features of CK19 may be helpful in the differential diagnosis between papillary carcinoma and Grave's disease with papillary carcinoma like structures. This