EVALUATION OF RECURRENCE RISK IN DIFFERENTIATED THYROID CANCER AFTER TREATMENT

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OBJECTIVES

In this study, between January 2006-April 2011, The Karadeniz Technical University Faculty of Medicine or outside in a center, differentiated thyroid cancer were diagnosed and after total thyroidectomy RIA had been treated 18 years and over 300 patients (239 female, 61 men) data were retrospectively analyzed.

METHODS

The initial American Thyroid Association (ATA) risk stratification of patients according to the system low, medium and high risk groups were separated. In addition, patients according to their response to treatment was excellent, acceptable and responses were classified as missing. Thus, ATA risk stratification system to predict the likelihood of recurrence in early stages of disease activity and treatment of patients in response to statistics given to the first risk estimates were revised and discussed how they can be combined. Also in our study, gender, age, tumor size, multifocality, American Joint Commitee on Cancer (AJCC) stage, capsular invasion and patient follow-up measurements of the suppressed and stimulated thyroglobulin values of variables such as follow-up period of persistent or recurrent is the case with the relationship was evaluated.

TABLE 1. DESCRIPTION OF THE PATIENTS

		n
Age (years)		
Mean ±SD	46.2±13.1	300
Range	18-81	
Gender		
Female	79.7%	239
Male	20.3%	61
Histology		
Papillary	82.7%	248
Follicular	13.3%	40
Hurthle cell	4.0%	12
^{131}I activity for ablation (mCi)		
Mean±SD	123.1±62.8	300
AJCC stage		
I	69.3%	208
II	23%	69
III	6.3%	19
IV	1.3%	4
ATA initial risk classification		
Low	54.7%	164
Intermediate	39.7%	119
High	5.7%	17

		n
Response to therapy classification		
Excellent	79.7%	239
Acceptable	11.0%	33
Incomplete	9.3%	28
Follow-up Duration (months)		
Mean±SD	57.7±14.9	300
Range	38-97	
Clinical status after initial therapy		
No evidence of disease	83.3%	250
Biochemical evidence of persistent disease	12.0%	36
Structural evidence of persistent disease	4.7%	14
Status at final follow-up		
No evidence of disease	79.0%	237
Biochemical evidence of persistent disease	7.3%	22
Structural evidence of persistent disease	10.0%	30
Recurrent disease	3.7%	11

Table 2. American Thyroid Association Risk Categories for based on AJCC

Risk	AJCC evreleme sistemi					
	Stage I (n=208)		*Stage II (n=69)*		*Stage III+IV (n=23)*	
	n	%	n	%	n	%
Low (n=164)	130	62.5	34	49.3	0	0
Intermediate (n=119)	69	33.2	32	46.4	18	78.3
High (n=17)	9	4.3	3	4.3	5	21.7

Table 3 . Clinical Outcomes Following Initial Therapy for Each AJCC

Clinical outcome following initial therapy	*Stage I (n=208)*		*Stage II (n=69)*		*Stage III+IV (n=23)*	
	n	%	n	%	n	%
No evidence of disease (n=250)	182	87.5	54	78.3	14	60.9
Persistent disease and biochemical evidence only (n=36)	21	10.1	10	14.5	5	21.7
Persistent and structurally identifiable disease, (n=14)	5	2.4	5	7.2	4	17.4

Table 4. Clinical Outcomes Following Initial Therapy for ATA Risk Categories

Clinical outcome following initial therapy	**No evidence of disease[1]**		**Persistent disease, biochemical evidence**		**Persistent disease, structurally identifiable**	
	n	%	n	%	n	%
Low[2] (n=164)	146	89	15	9.1	3	1.8
Intermediate[2] (n=119)	97	81.5	17	14.3	5	4.2
High (n=17)	7	41.2	4	23.5	6	35.3

[1](p<0.05) [2](p=0.1)

Table 5. Response to Initial Therapy Assessments at the 2-Year Follow-Up Using Thyroglobulin

Initial risk stratification	**During first 2 years of follow-up response to therapy variables**	**No evidence of disease.**
Low risk (n=164)	Suppressed Tg<1 ng/mL	89.7%
	Stimülated Tg < 1 ng/mL	95%
	Excellent response	95.7%
Intermediate risk (n=119)	Suppressed Tg<1 ng/mL	85.2%
	Stimülated Tg < 1 ng/mL	94.7%
	Excellent response	94.7%
High risk (n=17)	Suppressed Tg<1 ng/mL	55.6%
	Stimülated Tg < 1 ng/mL	50%
	Excellent response	40%

Table 6. Suppressed Tg and Response to Therapy and Follow-up

Response to therapy[1]	**Supressed Tg[1]**	**Ater 6 months initial therapy[2]**	**Supressed Tg[2]**	**Response to Initial Therapy Assessments at the 2-Year Follow-up[3]**	**Supressed Tg[3]**
Excellent response	0.2 (0.2-10)	No evidence of disease	0.2 (0.2-10)	No evidence of disease	0.2 (0.2-1.09)
Acceptable response	0.24 (0.2-3.28)	Persistent disease, biochemical evidence	0.54 (0.2-10.5)	Persistent disease, biochemical evidence	0.31 (0.2-1.5)
Incomplete response	2.08 (0.2-300)	Persistent disease, structurally identifiable	1.93 (0.2-300)	Persistent disease, structurally identifiable	1.71 (0.2-300)
[1](p<0.001), [2](p<0.001), [3](p<0.001)				Recurrent disease	0.2 (0.2-10)

RESULTS

In our study, the AJCC staging system and ATA risk stratification of patients was showed table 1. When looking at the responses of patients to treatment; 79.7% (239/300) responded excellent to treatment, 11% (33/300) acceptable response, 9.3% of the (28/300) showed that the response is incomplete. Histopathological examination of the patients was showed table 1. Mean tumor diameter was 1.91 cm 1.2, mean age at diagnosis was 46.2 13.18 (males 49.5 13.2, females 45.3 13.0) were found. In 21% of patients (63/300) follow-up of persistent or recurrent disease in the last case was detected. Initial treatment responses based on the persistent structural or recurrent disease adapted risk estimation in low risk group not treated very well responsive 7.3% from 2.9%, intermediate-risk group and the treatment excellent responders and 14.3% from 5.3%, higher risk group and 70.5% in those who respond excellent to therapy than was seen in 60%. In this study the first two years treatment criteria follow-up of disease status of being considering the low risk group treated excellent not respond, intermediate-risk group, stimulated Tg<1 ng/ml or treatment excellentresponse of the high risk group is suppressed Tg<1 ng/ml of being, at the end of follow-up showed that disease estimated to be more powerful. The mean age at diagnosis was found to be higher in male patients. In case of persistent or recurrent structural follow-up period being the age at diagnosis and tumor size were found to be associated with being high. Thyroiditis, multifocalitiy, invasion of the tumor capsule and the follow-up period was not associated with persistent structural or in case of recurrence was observed. Of our study is the advanced stage of the disease (stage III and stage IV) at follow-up status was associated with persistent structural or in the case of recurrence was observed. Female gender was the follow-up period with disease, the persistent structural condition of the male sex are seen to be associated with the positive. There was no significant relationship between gender of recurrence. Post-op period, measured in pre-ablative Tg, stimulated and suppressed Tg is the follow-up period or persistent structural disease or recurrence was found to be associated with the case (table 5). Post-op for Tg 9.5 ng/ml, stimulated Tg 1.7 ng/ml and for suppressed Tg 0.3 ng/ml for the risk of recurrence at follow-up period was found to be the cut-off value.

CONCLUSIONS

In our study, initial treatment responses based on the creation of new risks of computing is much more dynamic and follow the latest situation better estimates and the patients of this risk than the private and close monitoring advantage was observed. In conclusion, our study of ATA risk classification, initially recurrent/persistent disease was found to be a useful system to predict. However, only adapted to the risk of follow-up the patient's entire life does not change during the initial risk estimates also showed that not be done. Tailored to each patient, to achieve dynamic and full of risk assessment, risk prediction system response to treatment is needed to conclude that the combination of the variables.

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