



COMPARISON BETWEEN TWO DIFFERENT PROTOCOLS FOR THE MANAGEMENT OF PATIENTS WITH DIFFERENTIATED THYROID CANCER

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INTRODUCTION: New techniques such as etapification ultrasound scan (EU) have lead to less invasive surgeries in Differentiated Thyroid Cancer (DTC). The trend in recent years has been to a reduction in the doses of radioiodine (RI) administered.

Our hospital in 2013 incorporated these features to protocolize the administration of RI depending on the characteristics of the tumour and the initial thyroglobulin (Tg) levels, which may have had an impact in the response to treatment (RT) compared to our previous practice.

OBJECTIVE: Compare RT in patients with DTC between 2012-2013 treated with different protocols.

METHODS: Analysis of clinical records from patients that underwent Total Thyroidectomy for DTC.

The Protocol of 2012 did not include EU and RI doses were: a) 100 mci without lymph nodes nor distant metastasis. b) 150 mci with lymph nodes and without distant metastasis. c) 200 mci with distant metastasis. Protocol of 2013 tab 1.

Table 1: Dose of RI: procol 2013 HSJJ

RISK HSJDD	CHARACTERISTICS
Very low Risk Without RI	Tumor less or equal of 2 cm uni or multifocal: EU and cervical exploration without lymph nodes. Vascular invasion (-) Without aggressive histology. Minimal extrathyroid extension (Adipose tissue) Regional lymph node metastasis in definitive biopsy < or = 5 mm and less of 5 lymph nodes. Tg post surgery < 2 ng/dl.
Low Risk 30mCi RI	Tumor less or equal of 4 cm uni o multifocal: Aggressive Histology and vascular invasion(+). Minimal extrathyroid extension (muscle) . Lymph nodes in definitive biopsy > 5 mm and/or ≥ 5 lymph node metastasis. Tg 2- 20 ng/dl.
Intermediate Risk 100mCi RI	Tumor less or equal of 2 cm: Tg 20- 50 ng/dl Tumor between 2 y 4 cm: Aggressive Histology. Vascular invasion (+). Lymph nodes metastasis in definitive biopsy > 5 mm and/or ≥ 5 lymph nodes metastasis. Complete resection of macroscopic extrathyroid extension. Tg 20-50 ng/dl.
High Risk 150mCi RI	Any T with Tg more than 50 ng/dl. Extrathyroid extension no resected or any T with distant metastasis.

Patients were classified according to the ATA risk for recurrence scale. RT was evaluated after one year as excellent, acceptable or incomplete.

RESULTS: 84 patients from the 2012 protocol and 93 patients from the 2013 protocol were analyzed. Age, sex and histology were comparable between both groups. The 2013 group underwent more conservative surgeries with a lower percentage of patients undergoing lateral dissections. Tab 2.

REFERENCES:

1. Estimating risk of recurrence in differentiated thyroid cancer after total thyroidectomy and radioactive iodine remnant ablation: using response to therapy variables to modify the initial risk estimates predicted by the new American Thyroid Association staging system. Tuttle RM, et al. Thyroid. 2010.
2. Ablation with Low-Dose Radioiodine and Thyrotropin Alfa in Thyroid Cancer. Ujjal Mallick, et al. N Engl J Med 2012.
3. Revised American Thyroid Association Management Guidelines for Patients with Thyroid Nodules and Differentiated Thyroid Cancer. D. S. Cooper, et al. Thyroid 2009.

Table 2: Patients distribution

		2012	2013	P
N° PATIENTS	TOTAL	84	96	
	Low Risk	52	57	0,19
MEAN AGE	Intermediate Risk	41	45	0,06
	High Risk	44	51	0,28
SEX	Women	74 (88%)	84 (87,5%)	0,903
	Man	10 (12%)	12 (12,5%)	
HISTOLOGY	Papillary	73 (86,9%)	89 (92,7%)	0,07
	Follicular	9 (10,7%)	3 (3,1%)	
	Mixed	2 (2,3%)	4 (4,2%)	
LYMPH NODES DISSECTION	Without	15 (18%)	19 (19,8%)	< 0,0001
	Central+ASM	23 (27,3%)	64 (66,6%)	
	Central+ASM+Lateral	34 (40,5%)	10 (10,4%)	
	Central+ASM+bilateral	12 (14,3%)	3 (3,1%)	

The ATA risk distribution was comparable between the two groups (p=0.978). RI dosages administered to the 2013 group were significantly lower according to their risk group tab 3. The RT distribution at one year follow up was similar between both groups.

The RT distribution at one year follow up was similar between both groups (p=0,223).

The percentage of patients with an excellent response was comparable in the three ATA categories. Fig 1 a 3.

Tab. 3: Comparison of RI Dosages: Median and Interquartile range (IR)

Risk ATA	Group 2012	Group 2013	P (Mann Whitney)
Low	100 (IR 100-104)	0 (IR 0-30)	0,0001
Intermediate	150 (IR 145-150)	30 (IR 30-100)	0,0001
High	150 (IR 150-151)	125 (IR 100-150)	0,0146

Fig 1. Response to treatment ATA Low Risk 2012 vs 2013

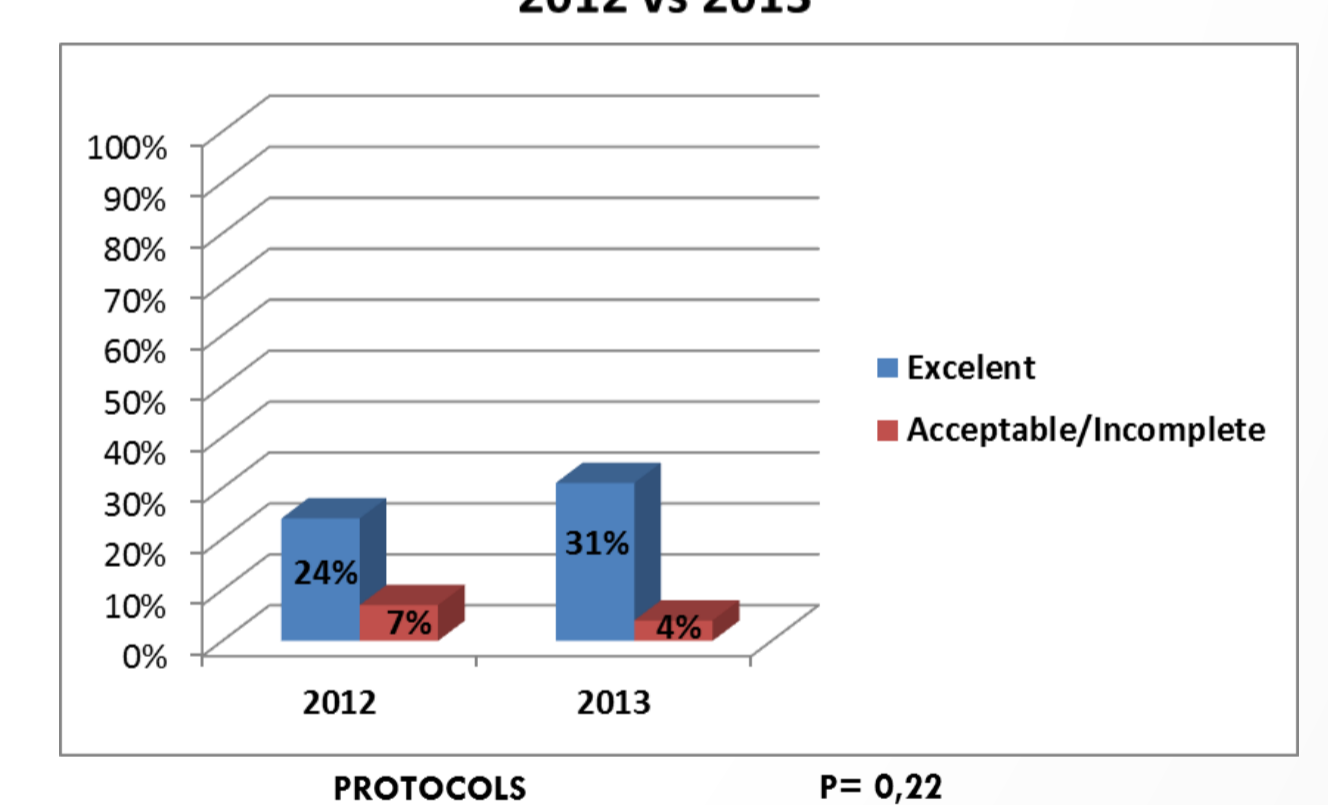


Fig 2. Response to treatment ATA Intermediate Risk 2012 vs 2013

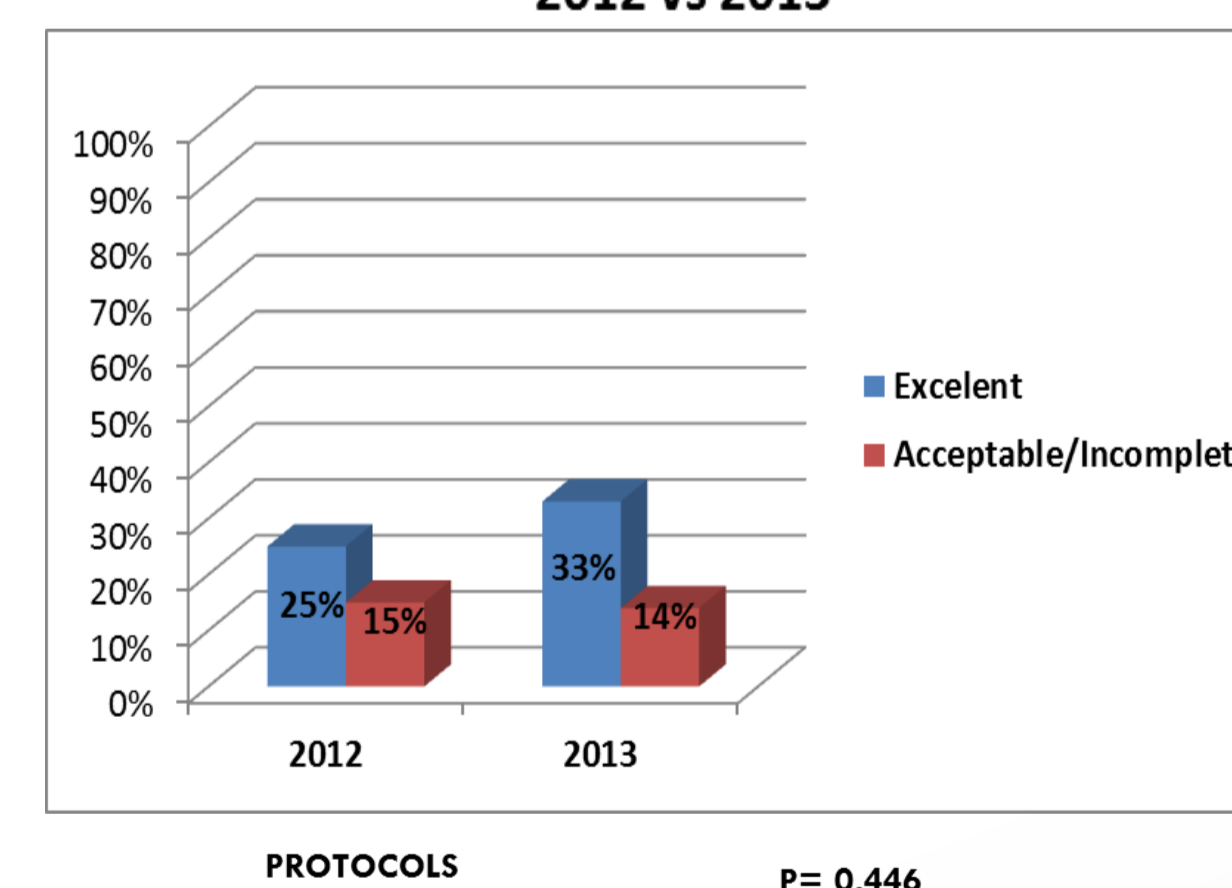
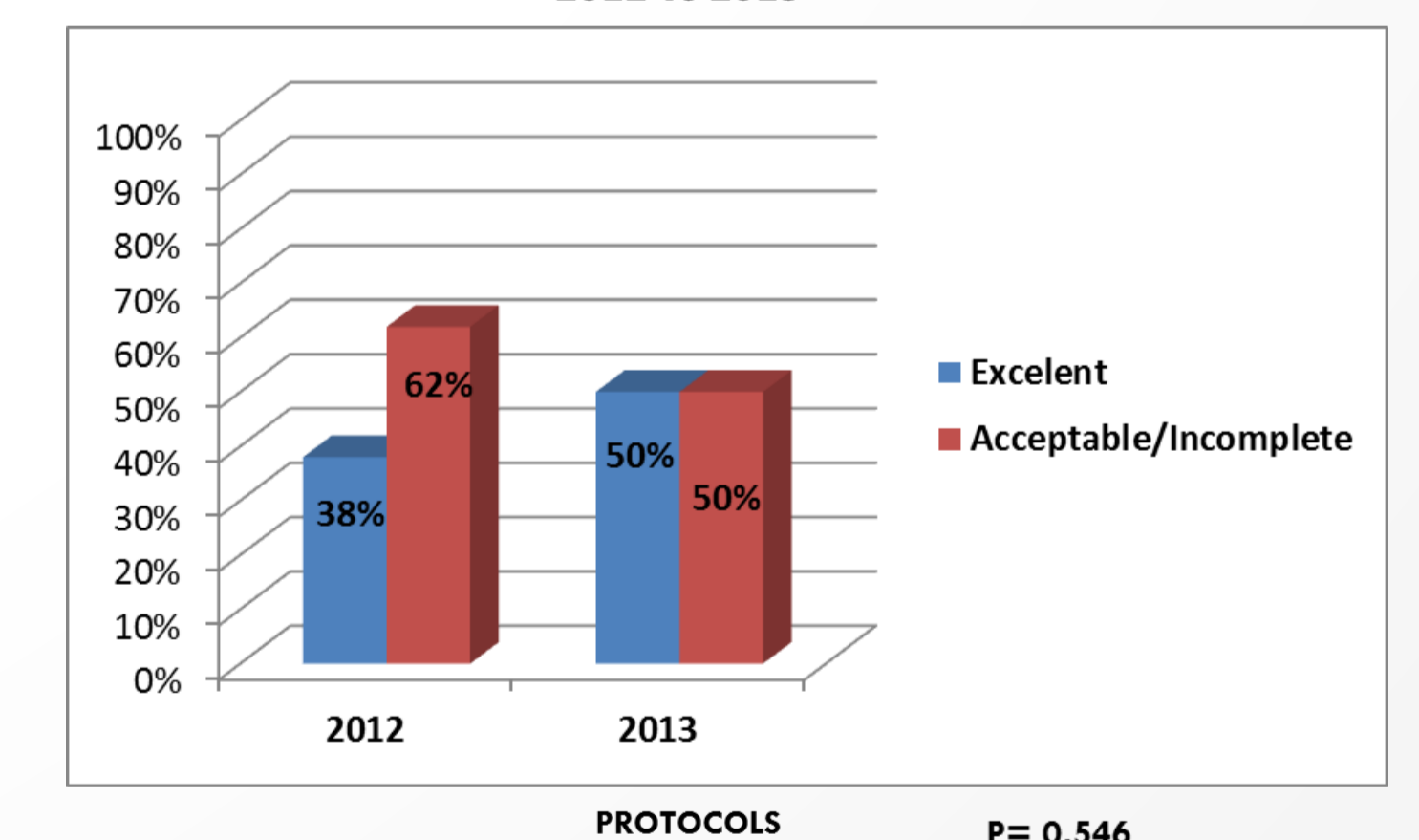


Fig 3. Response to treatment ATA High Risk 2012 vs 2013



CONCLUSIONS: We observed that the 2013 protocol has a RT comparable to the 2012 protocol. This allowed us to perform less invasive surgeries due to the incorporation of EU and it supports the use of lower doses of RI.