

Oral yeast profile in nasopharyngeal carcinoma patients following adjuvant chemotherapy

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Introduction

- Nasopharyngeal carcinoma (NPC) is common in Southern Chinese (15.7/100,000)
- The primary treatment is by conventional radiotherapy but the survival rate is poorer in advanced cases
- Adjuvant chemotherapy has been shown to have better control of the tumour

Introduction

- It is well-known that radiotherapy at head and neck region damages the salivary glands resulting in high incidence of oral yeast infection
- Additional chemotherapy may impose greater risk of oral yeast infection on those patients

Objective

- To compare the oral yeast profile in NPC patients receiving radiotherapy only (RTO) and radiotherapy plus chemotherapy (RTCH)

Materials and Methods

- Prospective study
- 89 consecutive newly diagnosed NPC patients were allocated to the RTCH and RTO group by oncologists
- Subjects had history of chemotherapy or radiotherapy in head and neck region were excluded

Examination & Oral rinse

- Clinical examination
- Oral rinse sampling
- Prior to and 2- and 6-month after radiotherapy

Culture & Laboratory analysis

- Cultured in CHROMagar
- Quantified in CFU & subculture to pure growth
- Identified by using API 20C

Data analysis

- Wilcoxon signed ranks tests, McNemar tests
- Mann-Whitney, Chi squared tests
- 5% level of significance

Results

- 77 out of 89 patients completed the study
- 8 subjects deceased and 4 dropouts

Patient characteristics and T-stage

		RTCH (<i>n</i> =38)	RTO (<i>n</i> =39)
Age (SE)		45(1.5)	48(1.8)
Gender (Male %)		84.2	71.8
T-stage (%)	1	13.2	12.8
	2	47.4	59.0
	3	23.7	28.2
	4	15.8	0.0

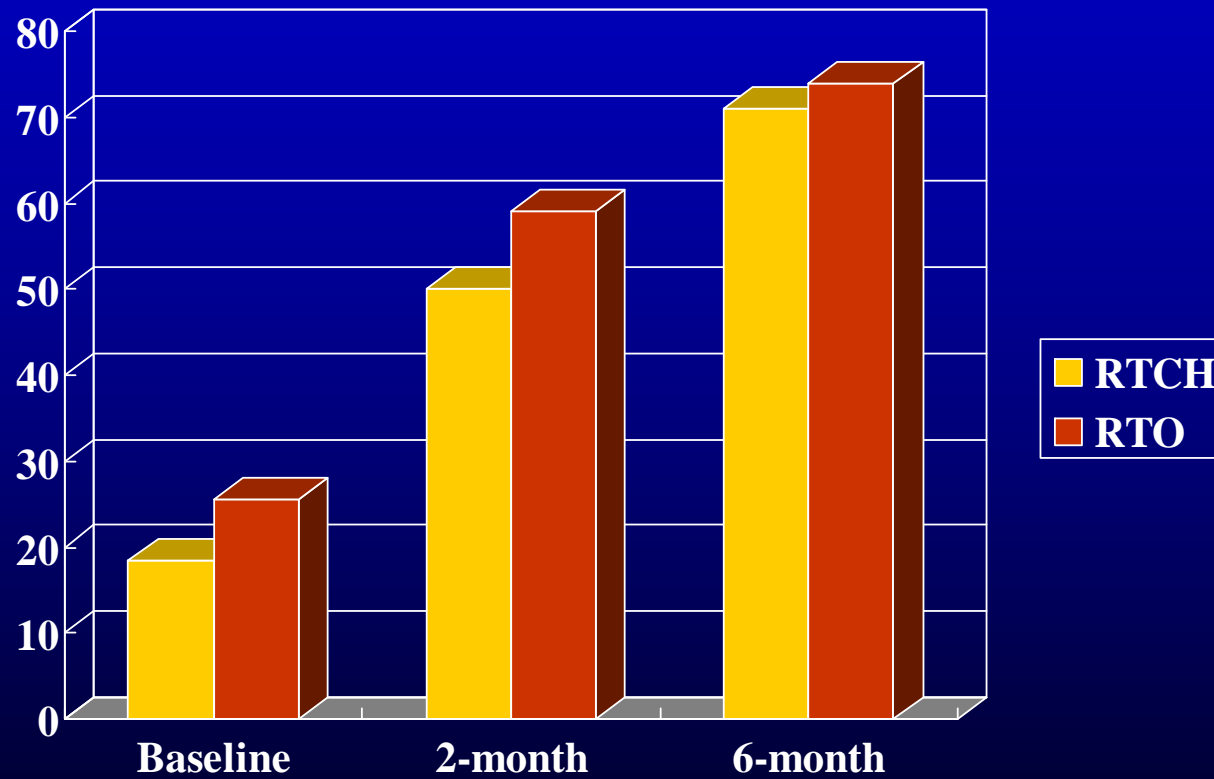
p>0.05

Radiation dose and baseline data

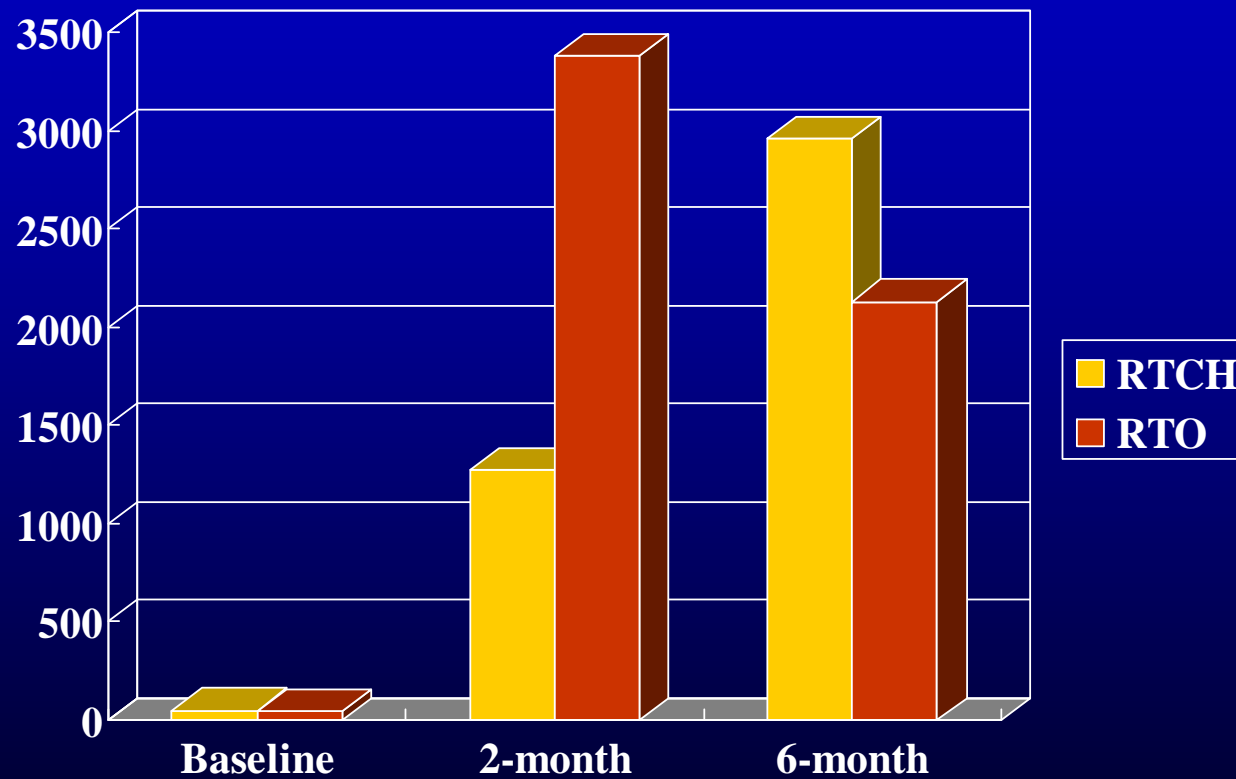
	RTCH (<i>n</i> =38)	RTO (<i>n</i> =39)
Mean RT dose [Gy(SE)]	74.6(0.9)	75.9(0.8)
Candidiasis (%)	5.3	17.9
Yeast colonization (%)	18.4	25.6
Mean yeast count [cfu/ml(SE)]	50(37)	45(21)
Denture wearing (%)	5.3	17.9

p>0.05

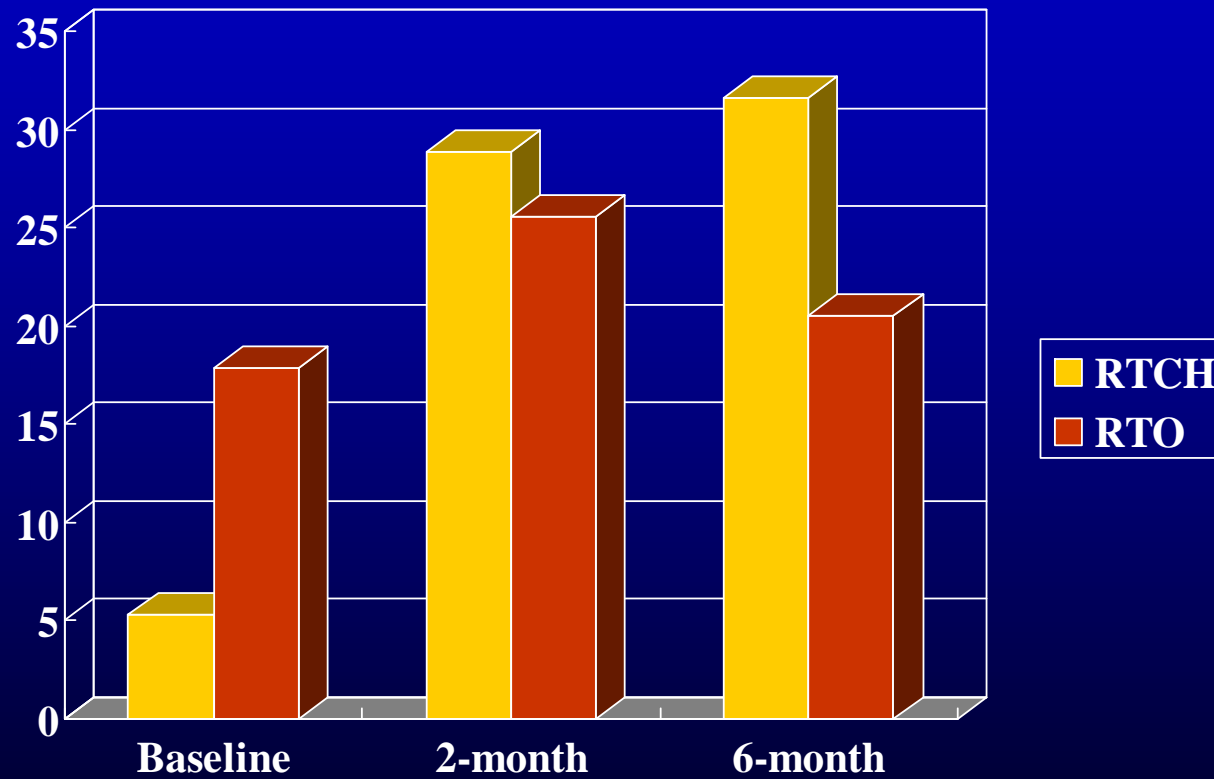
Proportion of subjects with yeast colonization (%)



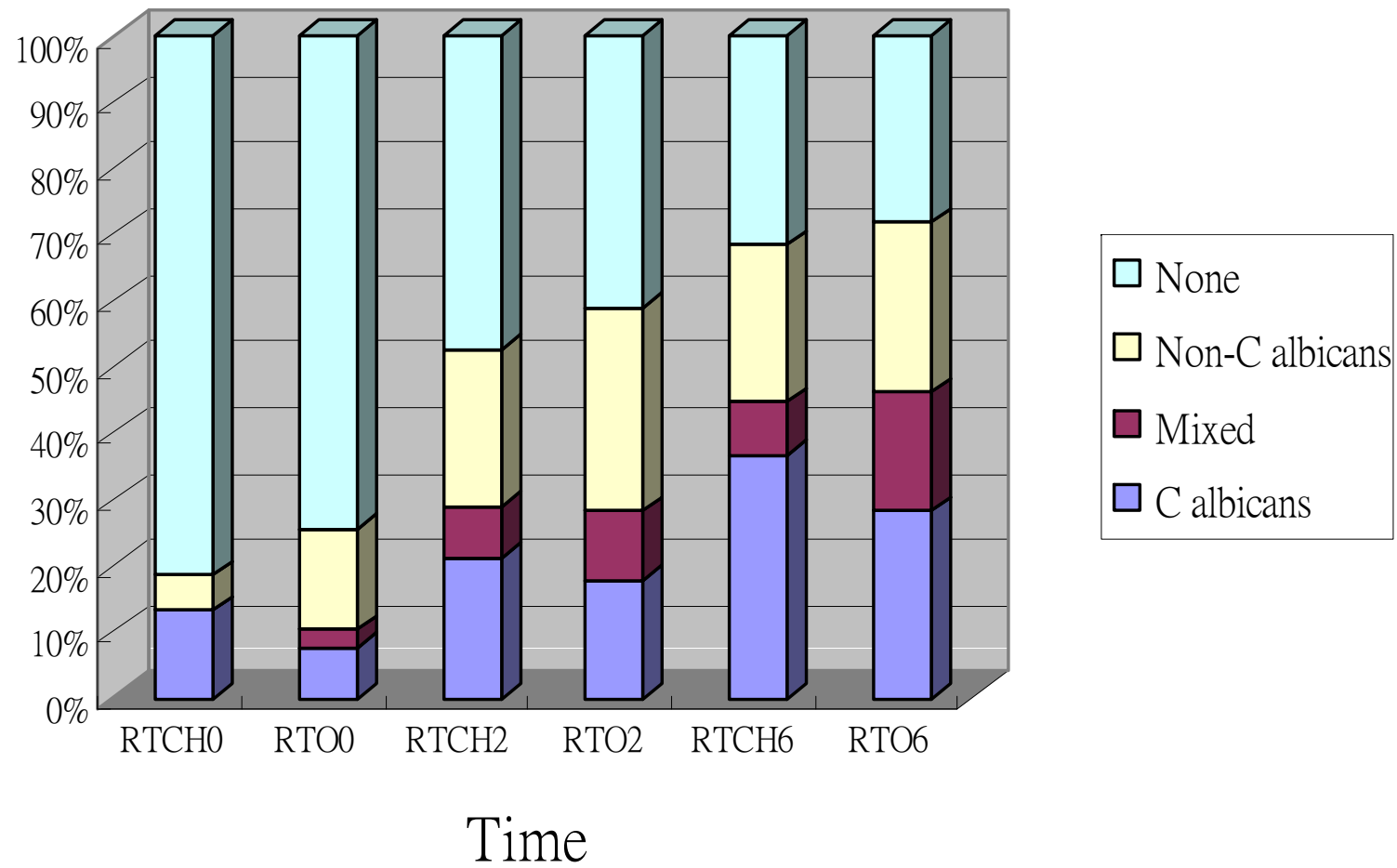
Mean yeast counts (cfu/ml)



Proportion of subjects with oral candidiasis (%)



Yeast profiles over time



Discussion

- Both treatments resulted in significant increase in mean yeast counts and proportion of subjects with yeast colonization.
- *C. albicans* was the most common isolated yeast in both treatment groups.
- ~25% of subjects in both groups were colonized by non-*C. albicans* yeasts only.
- No difference was found in yeast profile or incidence of candidiasis between two groups within the study period.

Conclusion

- Adjuvant chemotherapy for NPC did not affect the oral yeast profile in short-term.
- Non-*C. albicans* were not uncommon in NPC patients after radiotherapy with or without chemotherapy.