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Reaudit of The Use of Unimodality Radical Radiotherapy for Treatment of Oesophageal Cancer

Background

- 6th most common cause of cancer death in the UK.
- Late diagnosis - advanced stage
- Standard of care for resectable oesophageal cancer is:
  - ✓ Neoadjuvant chemotherapy and surgery
  - ✓ Neoadjuvant chemoradiotherapy and surgery also emerging as an effective and safe technique
- At NCCC, radical radiotherapy-only (unimodality) treatment is offered when co-morbidities preclude standard treatment

Previous Audit

- An audit done in 2009 at NCCC on this unimodality treatment demonstrated favourable results
- 3 year survival rate of 35.5%
- 5 year survival rate of 23.6%

- 2009 Conclusion: unimodality RT offers potential durable survival in this group of patients who otherwise are precluded from the standard bimodality / trimodality approaches

Aim of this re-audit

- To determine the survival outcomes of patients 5 years after the first audit
- To show a demonstrable survival benefit is maintained for this group of patients.

Method

- Retrospective notes assessment
- Obtained data from the hospital letters and notes
- Plotted a Kaplan-Meier curve
- Comparison of results with previous audit and recent research papers
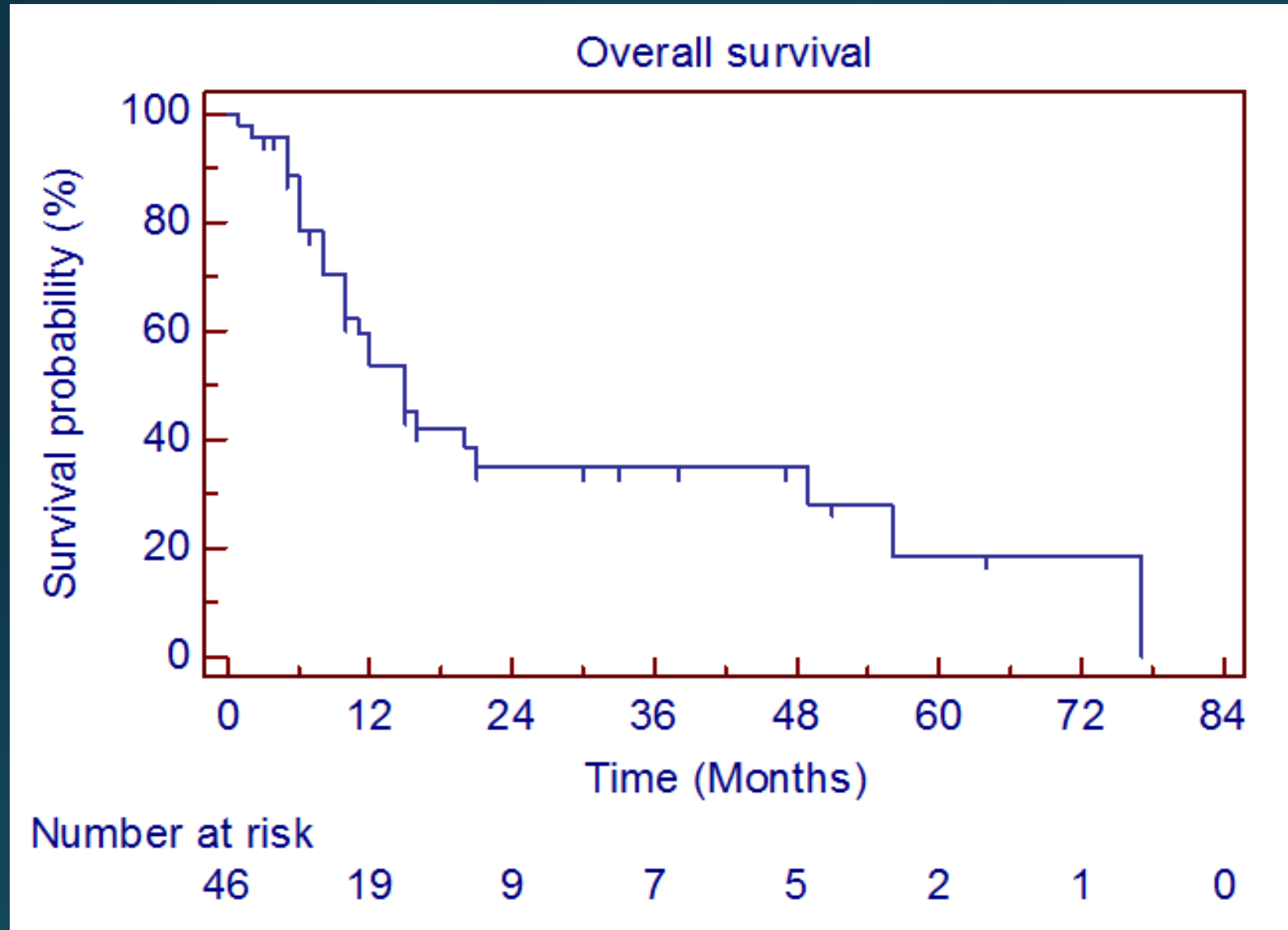
Cohort

- 46 patients – 24 male, 22 female
- Median age is 78.5 years
- Age range – 54 to 90 years old
- 52.2% adenocarcinoma and 48% squamous cell carcinoma
- Dose provided is 55Gy in 20 or 22 daily fractions

Results

- Longest survival 77months
- Shortest survival 1 month
- Median Overall survival 15 months

Survival curve showing cohort's Overall Survival

Survival Time	Frequency (%)
1 year	53.7
2 years	35.0
3 years	35.0
5 years	18.7

Comparison of results

- The Use of Radical Radiotherapy in Treatment of Oesophageal Cancer', audit by Fiona Price et al; the first audit done at NCCC in the year 2009

- Sykes, A.J., et al., Radical radiotherapy for carcinoma of the oesophagus: an effective alternative to surgery. Radiotherapy & Oncology, 1998. 48(1): p. 15-21.

- Amdal, C.D., et al., Radical treatment for oesophageal cancer patients unfit for surgery and chemotherapy. A 10-year experience from the Norwegian Radium Hospital. Acta Oncologica, 2010. 49(2): p. 209-18.

Table Showing Comparison of BED and Dose range

	Dose Range(Gy)	Dose Fractions	BED Range(Gy)
NCCC(first audit)	55	20-22	68.8 - 70.1
NCCC(re-audit)	55	20-22	68.8 - 70.1
Sykes et al	45 - 52.5	15 - 16	58.5 - 69.7
Amdal et al	63	56 (twice daily, split dose)	70.1

Results Comparison

	Amdal et al	NCCC(2009)	Sykes et al	NCCC(2014)
1 yr survival	24	80	x	53.7
2 yr survival	12	55.2	x	35.0
3 yr survival	8	35.5	27	35.0
5yr survival	x	23.6	21	18.7

Results

- OS is **NOT** affected by
  - cancer types (**SCC** v adenocarcinoma),
  - progression (progressed v not progressed),
  - age (>70 v <70, >80 v <80),
  - gender
  - performance status (0 v 1,2 or 3).

- **OS DOES** vary with nodal staging

Survival curve for different nodal staging group and survival outcomes
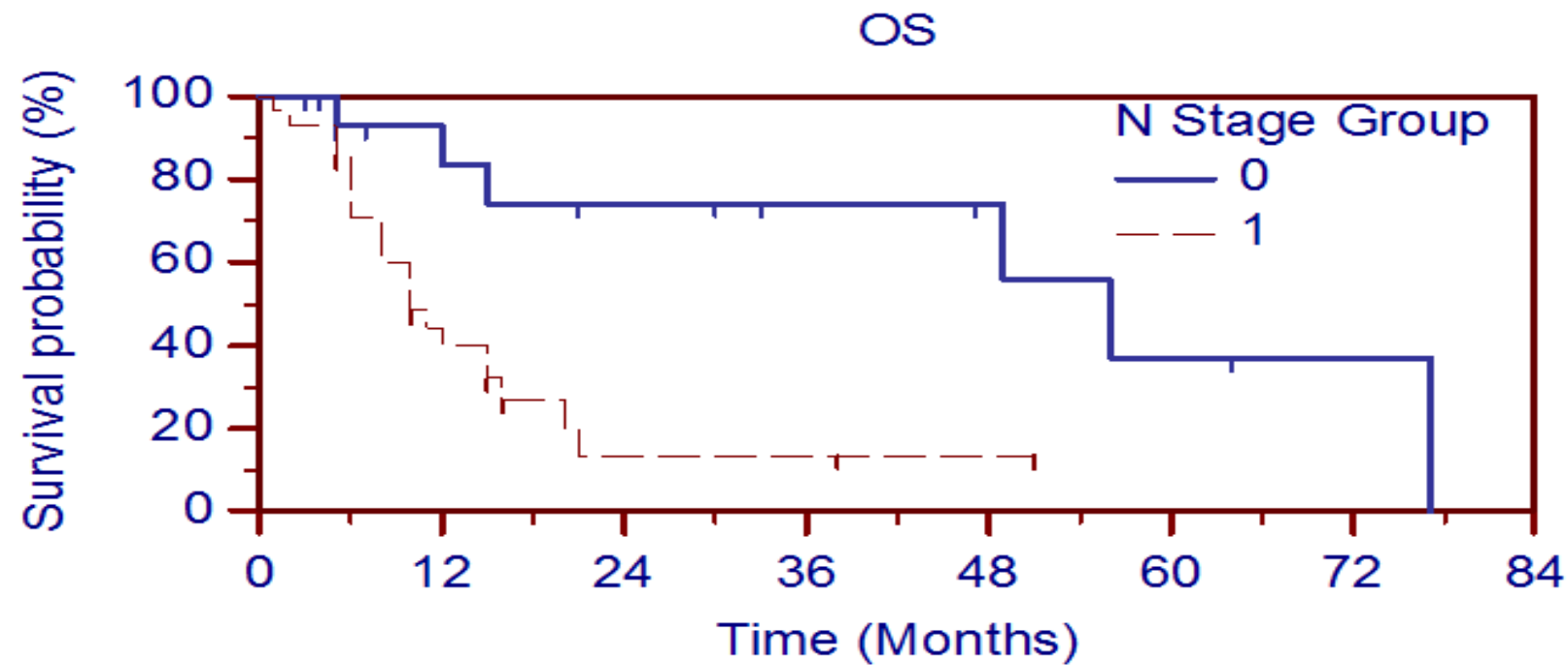
Median OS for N0 cancer	56 months (95% CI 15-77 months)
Median OS for N1, N2 cancer	10 months (5% CI 8-16 months)

Limitations

- **Poorer prognosis cohort**
- **As this is retrospective study, reliant on quality of data documentations.**

Conclusion and recommendations

- This re-audit study has shown that radical radiotherapy offers potentially durable survival to oesophageal cancer patients.
- Nodal staging has an effect on the overall survival of the patients

Conclusion and recommendations

- **Consider radical radiotherapy treatment for this group of patients where their co-morbidities would preclude standard treatment**

- **In order to continue improving the oesophageal cancer patients' healthcare, another re-audit will help ensure the standard is maintained.**

- **For discussion: Should we confine unimodality RT to N0 patients only?**

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