

Introduction

- In 3% to 9% of all head and neck squamous cell carcinoma (HNSCC), the primary tumor remains unidentified.
- A frequent used approach for head and neck carcinoma of unknown primary (HNCUP) is neck dissection followed by ipsilateral or bilateral adjuvant radiotherapy.
- The primary aim of this study was to compare clinical outcomes of patients treated with adjuvant radiation to the ipsilateral neck only (IPSI group) as opposed to adjuvant bilateral neck plus pharyngeal axis radiation (BILAX group).
- Furthermore, the late radiation effects from both groups was assessed.

Materials and methods

- Retrospective cohort study in the Erasmus Medical Center in which 78 patients with HNCUP were identified.
- Thirty-nine patients received post-operative radiotherapy (PORT) to both sides of the neck plus the pharyngeal axis (BILAX) and another 39 patients were irradiated on the ipsilateral neck (IPSI) only.
- The endpoints of the present study were 3-year overall survival (OS), 3-year disease-free survival (DFS), and overall late radiation toxicity.

Results

- A total of 78 patients with HNSCC were identified in the period between January 01, 2006 and December 31, 2015.
- The 3-year OS rate for the entire group of 78 patients was 74.2% and the 3-year DFS rate was 72.7%.
- The 3-year OS rates for the IPSI and the BILAX groups were 74.4% and 74.1%, respectively (P = .654).
- Eleven out of 39 patients (28.2%) in the BILAX group developed a recurrence, whereas in 10 out of 39 patients (25.6%) in the IPSI group a recurrence was observed.
- A subdivision of the recurrence sites into local, regional, locoregional, regional and distant, and distant metastasis only, shows no significant difference in recurrence sites between the BILAX group and the IPSI group (P = .779).
- The most common late radiation toxicity experienced was xerostomia (64.8%), which was significantly more often seen in the BILAX group than in the IPSI group (83.8% and 44.1%, respectively, P = .001).
- Overall late radiation toxicity was significantly higher in the BILAX group (P = .003).

Conclusion and Discussion

- This study shows that ipsilateral irradiation after neck dissection in patients with HNCUP does not have a negative effect on OS and DFS compared to patients who received PORT to both sides of the neck and the pharyngeal axis.
- Ipsilateral PORT leads to significant lower late radiation toxicity, with the greatest difference being the lower rate of xerostomia in the ipsilateral group.

	BILAX group	IPSI group	Total
Local	1	2	3
Regional	4	2	6
Locoregional	1	0	1
Regional and distant metastasis	1	2	3
Distant metastasis only	4	4	8
Total	11	10	21

Sites of recurrence by treatment group at 3-year follow up (P = .779)

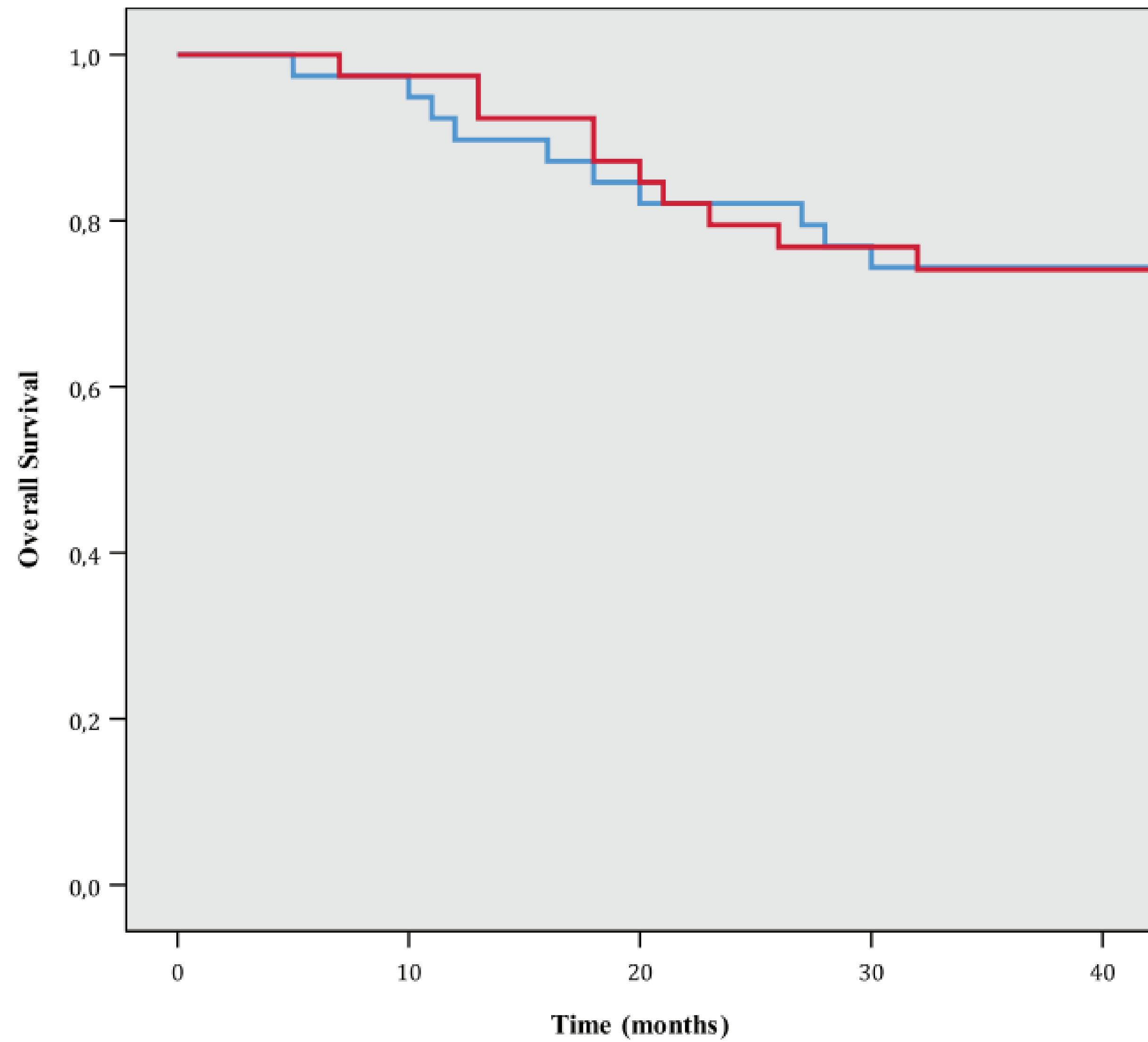
	Low (0–1)	Moderate (2–3)	High (≥4)	Total
BILAX group (%)	4 (10.8%)	26 (70.3%)	7 (18.9%)	37
IPSI group (%)	16 (47.1%)	15 (44.1%)	3 (8.8%)	34
Total	20	41	10	71

Overall late radiation-induced toxicity by treatment group as a product of cumulative score (P = .003)

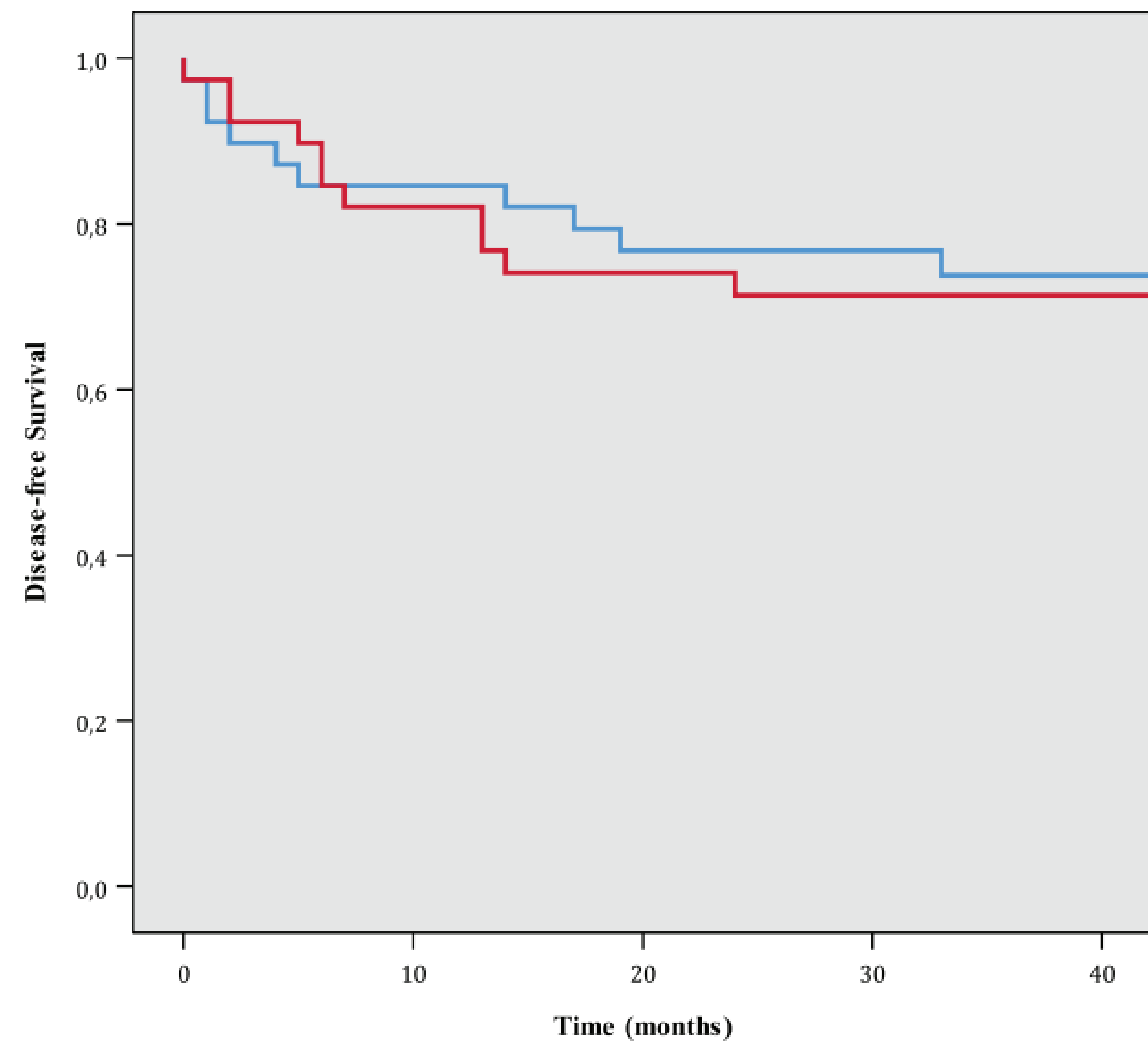


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Kaplan-Meier curve of overall survival by postoperative radiotherapy (PORT) target volumes (**log-rank test P = .654**)



Kaplan-Meier curve of disease-free survival by PORT target volumes (**log-rank test P = .808**)