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Purpose or Objective
Breast-conserving surgery (BCS) and whole breast radiation (RT) with or without endocrine therapy (ET) represent the standard of treatment for ductal carcinoma in situ (DCIS). The use of adjuvant treatments after surgery for DCIS is still controversial, and a consistent definition of low- risk disease is still lacking. We performed a retrospective multicentric analysis on a series of DCIS patients treated with BCS and adjuvant RT.
Material and Methods
We collected data from 9 Italian centres on 1072 women with a diagnosis of DCIS treated with BCS and post-operative RT. Prescription of adjuvant ET, RT dose and fractionation, as boost to the tumour bed followed the single centre policy. We analysed the 5- and 10-year local recurrence (LR) rates (DCIS and invasive recurrence), overall survival (OS), and breast cancer specific survival (BCSS). Univariate and multivariate analyses were performed to correlate clinical and pathological features to clinical outcomes.
Results
All patients were treated from 1997 to 2012 with BCS and whole breast irradiation. Standard fractionation was delivered in 886 patients (83%), while hypofractionated RT was given in 186 patients (17%). After a median follow-up of 8.4 years (range 4-20), 67 LR and 47 deaths were observed. DCIS LR was observe in 25 patients (37.3%) and invasive LR in 42 patients (62.7%). Overall 11/47 deaths (23.4%) were related to breast cancer. Mean time to LR was 7 years (5.4 years and 8 years for DCIS and invasive LR, respectively). LR rates at 5 and 10 years were 3.4% (95%CI 2.3-4.5) and 7.6% (95% CI 6.0-9.2), respectively. OS rates at 5 and 10 years were 98.5% and 97%, respectively. BCSS rates at 5 and 10 years were 99.7% and 99.1%, respectively. At univariate analysis, post-menopausal status (HR 0.52; 95% CI 0.32-0.85, p=0.009), oestrogen receptors positive (HR 0.32; 95% CI 0.17-0.60, p=0.0001), progesterone receptor positive (HR 0.46; 95% CI 0.25-0.88, p=0.018) and ET (HR 0.39; 95% CI 0.20-0.77, p=0.006) were inversely correlated with LR risk. Conversely, surgical margins (FSM) <1 mm on the definitive pathological specimen was significantly correlated with LR (HR 3.25; 95% CI 1.49-7.08, p=0.003) risk. At multivariate analysis post-menopausal status (HR 0.40; 95% CI 0.18-0.92, p=0.03), and positive oestrogen receptors (HR 0.35; 95% CI 0.13-0.98, p=0.045) confirmed the significant favourable feature, while FSM <1 mm (HR 3.3; 95%CI 1.17-9.28, p=0.024) confirmed its negative impact on LR. No parameter statistically affected OS and BCSS rates. At uni- and multivariate analysis both hypofractionated RT (p=0.10) and boost delivery (p=0.34) had no impact on LR rate.
Conclusion
Our study points out a significant favourable prognostic role of postmenopausal status and positive ER on LR occurrence. Hypofractionation was as effective as standard fractionation, while boost on the tumour bed did not significantly impact on LR rate. Conversely, FSM <1 mm was significantly correlated to a higher chance to experience LR.

OC-0161 Patterns of Local Recurrence in Malignant and Borderline Phyllodes Tumors of the Breast (KROG 16-08)

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Purpose or Objective
Regardless of histologic grade, up to 20% of patients with phyllodes tumor of the breast locally recur after complete surgical resection. Use of adjuvant radiation therapy has increased in the past decades, but indication criteria remain open to debate. This study aims to evaluate local control rates based on treatment modality and analyze patterns of local recurrence according to the site and histologic grade of recurred tumors in malignant and borderline phyllodes tumor of the breast.
Material and Methods
A total of 362 patients with phyllodes tumor of the breast, including 235 (64.9%) with malignant and 127 (35.1%) with borderline, were treated with surgical resection at 10 institutional hospitals between 1981 and 2014. Of these patients, 265 (73.2%) underwent breast-conserving surgery and 97 (26.8%) underwent mastectomy. Adjuvant radiation therapy was given for 31 (8.6%) patients. Local recurrence was defined as tumor bed recurrence if occurring at or within 2 cm from the lumpectomy cavity and as elsewhere recurrence if otherwise.
Results
At a median follow-up of 5.2 years (range 2.0-31.1), 60 (16.6%) patients had local recurrence with no significant difference between histologic grades. Positive resection margin (HR 3.1, 95% CI 1.6-5.8, p<0.001) and treatment with breast-conserving surgery alone (HR 2.2, 95% CI 1.1-4.7, p=0.034) were independent prognostic factors for worse local recurrence-free survival. In a subgroup of patients treated with breast-conserving surgery, recurred tumors were more commonly located in the tumor bed than elsewhere (16.6% vs. 2.6%). Multivariate analysis showed significantly higher risk of elsewhere recurrence when resection margins were positive after breast-conserving surgery (HR 7.7, 95% CI 1.5-41.4, p=0.016). On comparison of histologic grades of recurred tumors at

each subsequent event of local recurrence, malignant-to-malignant recurrence occurred in 11.1% of patients at the first event, whereas borderline-to-malignant recurrence occurred in 4.8% of patients. On subsequent events of local recurrence, borderline-to-malignant recurrence rates increased to 14% at the second event and 86% on the third event.

Conclusion

For malignant phyllodes tumor of the breast, patients with positive resection margin after breast-conserving surgery should be considered for whole breast radiation therapy due to high rates of elsewhere local recurrence. If resection margin is negative after breast-conserving surgery, partial breast radiation therapy could be adapted. For borderline phyllodes tumor, utilization of radiation therapy should be considered after the first event of local recurrence due to the increasing potential for malignant transformation with each subsequent event.

Proffered Papers: CL 4: Upper GI

OC-0162 A comparison of two neoadjuvant chemoradiotherapy regimens for esophageal cancer

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Purpose or Objective

Curative treatment for locally advanced esophageal cancer consists of neoadjuvant chemoradiotherapy (nCRT) followed by surgery. Various chemotherapy regimens and radiotherapy doses and fractionation schemes are currently used worldwide, with varying accompanying toxicities and contra-indications. A higher radiotherapy dose might increase pathologic complete response (pCR) rates. The aim of this study was to identify whether the neoadjuvant radiotherapy dose influences pCR rates in esophageal cancer patients, using a comparison between two commonly used neoadjuvant chemoradiation regimens.

Material and Methods

Consecutive patients who underwent neoadjuvant chemoradiotherapy followed by surgery for locally advanced squamous cell carcinoma (SCC) or adenocarcinoma (AC) of the esophagus between 2000 and 2017 at two major university medical centers were considered eligible for inclusion. Patient- and treatment-related characteristics were prospectively acquired. Neoadjuvant radiation dose varied between 40.0Gy (20 fractions of 2Gy), 41.4Gy (23 fractions of 1.8Gy) and 45.0Gy (25 fractions of 1.8Gy). Chemotherapy consisted of carboplatin-paclitaxel or cisplatinum-5FU. The influence of radiation dose on pCR (ypT0) was studied in univariable and multivariable analyses.

Results

A total of 426 patients were included of whom 82 received 40.0Gy, 153 received 41.4Gy and 191 received 45.0Gy during neoadjuvant therapy for esophageal cancer. Patient- and treatment-related characteristics and their univariable association with the treatment groups are presented in Table 1. Age at diagnosis, tumor histology, tumor location, chemotherapy regimen and clinical T and N stage differed significantly between the three groups. Within the entire cohort, 137 patients (32%) developed a pCR. No significant difference in pCR rates was observed among the three groups in univariable analysis (33% (27/82) versus 31% (48/153) and 33% (62/191), respectively; p=.964). When adjusting for age, tumor histology, tumor location, chemotherapy regimen and clinical T and N stage in multivariable analysis, the association between radiation dose and pCR remained non-significant (41.4Gy versus 40.0Gy: odds ratio 0.55 (95% confidence interval 0.14-2.17, p=0.390; 45.0Gy versus 40.0Gy: odds ratio 1.13 (95% confidence interval 0.60-2.15, p=0.701). A significantly higher percentage of patients with SCC achieved a pCR compared to patients with AC (52% versus 20%, p<0.001).

Table 1. Patient and treatment-related characteristics and their univariable association with the treatment groups

	40 Gy n = 82 2000-2007		41,4 Gy n = 153 2010-2016		45 Gy n = 191 2001-2015		*p-value*
Age, years (mean ± SD)	59 ± 10		65 ± 8		62 ± 9		**<0.001**
Sex							0.954
Male	61	74%	114	74%	139	73%	
Female	21	26%	40	26%	52	27%	
Histology							**0.002**
Adenocarcinoma	37	44%	104	68%	124	65%	
Squamous cell carcinoma	45	55%	49	32%	67	35%	
Tumor location							**0.005**
Cervical	1	1%	0	0%	0	0%	
Proximal third	7	9%	6	4%	6	3%	
Middle third	31	38%	31	20%	44	23%	
Distal third	26	32%	75	49%	103	54%	
Gastro-esophageal junction	15	18%	35	23%	36	19%	
Cardia	2	2%	6	4%	2	1%	
Chemotherapy regimen							**<0.001**
Carboplatin-Paclitaxel	0	0%	153	100%	15	8%	
Cisplatinum-5FU	82	100%	0	0%	176	92%	
cT-status							**<0.001**
T1	0	0%	3	2%	1	1%	
T2	6	7%	28	18%	21	11%	
T3	45	55%	119	78%	147	77%	
T4	29	35%	3	2%	22	11%	
Unknown	2	2%	0	0%	0	0%	
cN-status							**<0.001**
N0	5	6%	41	27%	14	8%	
N+	77	94%	112	73%	177	93%	
cM-status							0.424
M0	81	99%	153	100%	189	99%	
M1	1	1%	0	0%	2	1%	

Conclusion

No significant difference in pCR rates was found between the three groups that received neoadjuvant radiation doses of 40.0Gy, 41.4Gy and 45.0Gy for esophageal cancer accompanied with various chemotherapy regimens. Future research should focus on the identification of the least toxic neoadjuvant treatment for patients with esophageal cancer.

OC-0163 Detection of interval metastasis after neoadjuvant chemoradiotherapy for esophageal cancer.

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Purpose or Objective

During neoadjuvant chemoradiotherapy for esophageal cancer and subsequent waiting time to surgery some patients develop systemic interval metastasis. This study aimed to evaluate the diagnostic performance of ^{18}F-FDG PET/CT for the detection of interval metastasis and to identify predictors of interval metastases in a large cohort of esophageal cancer patients.

Material and Methods

In total 783 consecutive patients with potentially resectable esophageal cancer who underwent chemoradiotherapy and pre- and post-treatment ^{18}F-FDG PET/CT between 2006 and 2015 were analyzed from a prospectively maintained database. Diagnostic accuracy