Endpoint	Fr Schedule	Estimated absolute difference in 5-year event rates[1] (%) (95% CI)	Crude HR (95% CI)
LR relapse ST-A			
	50 Gy	-	1
	41.6 Gy	0.2 (−1.3−2.6)	1.05 (0.63−1.75)
	39 Gy	0.9 (−0.8−3.7)	1.26 (0.77−2.08)
LR relapse ST-B			
	50 Gy	-	1
	40 Gy	−0.6 (−1.7−0.9)	0.79 (0.48−1.29)
Mild/marked change in breast appearance ST-A			
	50 Gy	-	1
	41.6 Gy	2.8 (−5.0−11.5)	1.09 (0.85−1.40)
	39 Gy	−10.8 (−17.6−−2.9)	0.69 (0.52−0.91)
Mild/marked change in breast appearance ST-B			
	50 Gy	-	1
	40 Gy	−5.6 (−11.8−1.2)	0.83 (0.66−1.04)

[1]compared with 50 Gy

2027 ORAL

Predictors of increased risk of breast fibrosis at 10 years with higher radiation dose in the early breast cancer (EORTC "Boost versus no Boost" trial 22881–10882).

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Introduction: In patients with early breast cancer undergoing microscopically complete excision followed by whole breast irradiation (WBI), the EORTC "Boost trial" showed that an extra boost dose of 16 Gy reduced the risk of local recurrence by 41% in all age groups. The absolute benefit was smaller in the older age groups where the absolute 10-year risk of failure is lowest. The boost also significantly increased the risk of moderate and severe fibrosis. We now investigate predictors of the long term risk of fibrosis, to weight the risks versus the benefits of delivering a boost.
Material and Methods: 5318 patients were randomized between a boost dose of 16 Gy and no boost dose, with a median follow-up of 10.8 years. Fibrosis was scored on a 4-point scale (none/minor/moderate/severe). Predictors of the time to first occurrence of moderate or severe fibrosis were studied by Cox regression (significance level alpha=0.01) and treatment-factor interactions by Logrank test (significance level alpha=0.05).
Results: Prognostic models were developed on a random subset of 1827 patients without boost and 1797 with a boost. On both arms, the risk of moderate or severe fibrosis significantly increased ($P < 0.01$) with increasing maximum WBI dose in the breast and with concomitant chemotherapy but was not influenced by the patient's age. In addition, only in the boost arm, the risk further increased ($P < 0.01$) if patients received adjuvant tamoxifen, had post-operative breast oedema or haematoma, but it decreased ($P < 0.01$) if WBI was given with >6 MV X-rays. The risk of fibrosis with an electron boost was lower than with other boost techniques ($P < 0.01$), but it increased with increasing electron energy ($P < 0.01$).
Conclusions: For each patient, our models allow to predict the expected risk of long term fibrosis with or without boost, based on several factors that can be assessed post-surgery (post-operative oedema or haematoma) or post-WBI (WBI dose, adjuvant treatments and, if a boost is given, boost technique and energy). The risk of fibrosis is independent of age. Our models should be especially helpful in deciding to deliver a boost in older patients for whom the absolute risk of local failure is relatively modest.

2028 ORAL

Concomitant versus sequential chemo-radiotherapy for early breast cancer: meta-analysis of randomized clinical trials (RCTs)

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Background: Adjuvant chemotherapy (CT) and radiotherapy (RT) are considered complementary standard treatment for patients undergone surgery for early breast cancer. A number of RCTs have investigated if the concomitant approach of both treatments improved outcomes over sequential. It has been suggested that the sequence of these two treatments may affect patient outcome. A delay in initiating radiotherapy was found to increase the risk of local recurrence and also have a detrimental effect on survival. Conversely, a delay in the administration of systemic chemotherapy while radiotherapy is delivered could allow the proliferation of micro-metastatic disease. A meta-analysis comparing the concomitant over the sequential strategy has been planned.
Methods: A literature-based meta-analysis was accomplished, and event-based relative risk ratios (RRs) with 95% confidence interval (CI) were derived. A fixed- (FEM) and a random-effect (REM) model according to the inverse variance and heterogeneity test were applied as well. Absolute difference (AD) and the Number of patients Needed to Treat (NNT) were calculated. Primary end-points were: disease-free survival (DFS) and overall survival (OS); secondary end-points were: breast cancer recurrence- (BCR), nodal recurrence- (NR), distant recurrence- (DR) and controlateral breast cancer- (Con BC) rates.
Results: Five RCTs were gathered (2430 patients); one RCT did not report the DFS result. Results are depicted in the table.

	End-Point	Pts (#RCTs)	RR (95% CI)	p	Het. (p)
Primary	DFS	1783 (4)	0.98 (0.84, 1.16)	0.87	0.52
	OS	2430 (5)	0.99 (0.94, 1.06)	0.94	0.90
Secondary	BCR	2430 (5)	0.66 (0.46, 0.94)	0.025	0.56
	NR	2186 (4)	1.05 (0.77, 1.43)	0.73	0.25
	DR	2430 (5)	1.03 (0.85, 1.24)	0.72	0.22
	Con BC	1539 (3)	0.83 (0.43, 1.46)	0.52	0.65

BCR was significantly less with concomitant CT+RT, with a AD of 1.93%, which translates into 52 NNT.

Conclusions: Concomitant chemo-radiotherapy after surgery for early breast cancer does not improve both DFS and OS over sequential. Nevertheless, a significant less rate of breast recurrences are present with concomitant approach. The choice of such approach should be weighted with the type of chemotherapy (i.e. anthracyclines, which do not allow such strategy), toxicity and scheduling issues.

2029 ORAL

Breast-conserving surgery with or without radiotherapy in women with ductal carcinoma in situ: a meta-analysis of randomized trials

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Background: To investigate whether Radiation therapy (RT) should follow breast conserving surgery in women with ductal carcinoma in situ from breast cancer (DCIS) with objective of decreased mortality, invasive or non invasive ipsilateral recurrence, distant metastases and contralateral breast cancer rates. We have done a meta-analysis of these results to give a more balanced view of the total evidence and to increase statistical precision.
Materials and Methods: A meta-analysis of randomized controlled trials (RCT) was performed comparing RT treatment for DCIS of breast cancer to observation. The MEDLINE, EMBASE, CANCERLIT, Cochrane Library databases, Trial registers, bibliographic databases, and recent issues of relevant journals were searched. Relevant reports were reviewed by two reviewers independetly and the references from these reports were searched for additional trials.
Results: The reviewers identified four large RCTs, yielding 3665 patients. Pooled results from this four randomized trials of adjuvant radiotherapy showed a significant reduction of invasive and DCIS ipsilateral breast cancer with odds ratio (OR) of 0.40 (95% CI 0.33−0.60, $p < 0.00001$) and 0.40 (95% CI 0.31−0.53, $p < 0.00001$), respectively. There was not difference in distant metastases (OR = 1.04, 95% CI 0.57−1.91, $p = 0.38$) and death rates (OR = 1.08, 95% CI 0.65−1.78, $p = 0.45$) between the two arms. There were more contralateral breast cancer after adjuvant RT (66/1711, 3.85%) versus observation (49/1954, 2.5%). The likelihood