

140P - Benefit of adjuvant chemotherapy in luminal A-like early breast cancer in women aged 40 years or younger results of a national multi-institutional study

BACKGROUND

Young age is a poor prognosis factor in early-stage breast cancer (BC), regardless of molecular subtype or stage at diagnosis. Yet, evidence to support adjuvant chemotherapy (aCT) in luminal A-like patients ≤ 40 years is limited. The primary objective of this study was to examine the impact of aCT on outcomes in this population.

METHODS

Patients ≤ 40 years old were retrospectively identified from a large multicentric cohort of 23,134 patients with early BC treated by surgery between 1990 and 2014. Luminal A-like tumors were defined on the basis of low SBR tumor grade (1 or 2), endocrine receptors positivity, and HER2 negativity. Patients who received neo-adjuvant chemotherapy were excluded. Endpoints were disease-free survival (DFS) and overall survival (OS). A multivariate Cox model including aCT, endocrine therapy, radiation therapy, tumor size, grade, and nodal status was built.

RESULTS

Of a total of 464 patients under 40 years old with luminal A-like tumors, 295 received aCT. Median age at diagnosis was 37.87 years. Median follow-up was 72.3 months. Patients who received aCT had more unfavorable prognostic features, such as age ≤ 35 years, large tumor size, high grade, lymphovascular invasion, and macroscopic lymph-node involvement. Factors independently associated with aCT prescription were treatment period, tumor size, SBR grade and endocrine therapy. In univariate analysis, survival at 5 and 10 years without aCT appeared globally better (DFS= 94% and 73%, OS= 100% and 97%) than with aCT (DFS= 92% and 74%, OS= 98% and 91%), without statistical difference. In multivariate Cox analysis, we observed yet a beneficial effect of aCT use on OS (HR=0.21, 95% CI [0.05-0.84]; $p=0.028$), but not on DFS (HR=0.57, 95% CI [0.27-1.22]; $p=0.147$). Other variables independently associated with OS were tumor size, macroscopic lymph-node involvement and radiation therapy use. Only tumor size was independently associated with DFS in this cohort.

Figure 1 : Patient and tumor characteristics according to aCT

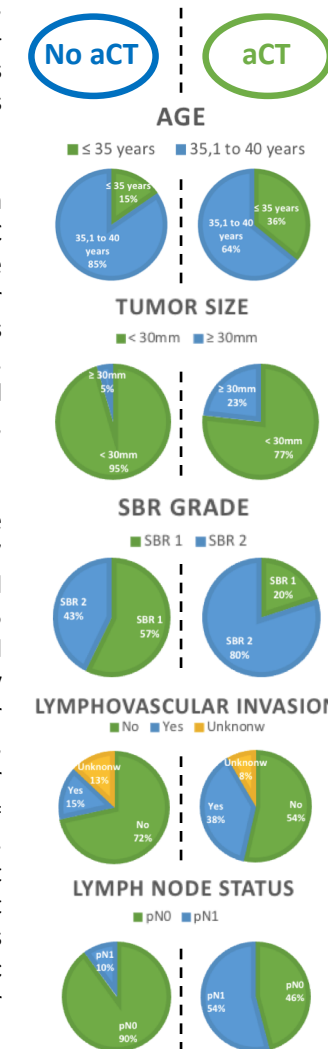


Figure 2 : Kaplan-Meier estimates of disease-free (DFS) and overall (OS) survivals according to aCT use in univariate analysis

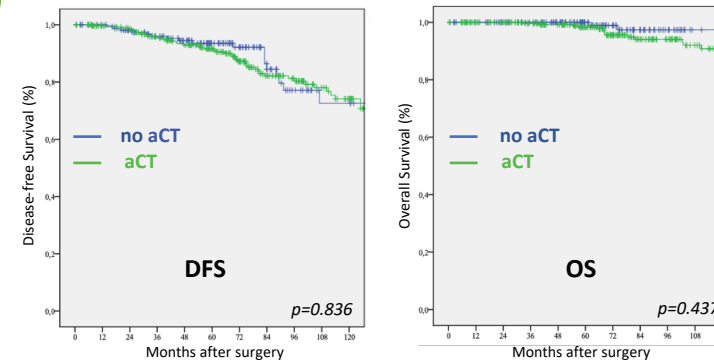


Table 1 : Independent factor associated with aCT prescription

Binary logistic regression	HR	95% CI		p value
		min	max	
Period	0.271	0.148	0.496	<0.001
Tumor size	5.290	2.042	13.710	0.001
SBR grade	6.110	3.336	11.191	<0.001
Lymphovascular invasion	1.716	0.910	3.236	0.095
Radiotherapy	1.652	0.701	3.898	0.251
Endocrine therapy	4.431	1.912	10.267	0.001

CONCLUSION

Luminal A-like patients aged 40 years or younger derive significant OS benefits from aCT. The trend favoring aCT use observed for DFS did not reach statistical significance. Further analysis/meta-analysis would be warranted given the incidence of this type of cancer, and the need to identify subgroups that would benefit most from systemic treatments.

Figure 3 : Kaplan-Meier estimates of disease-free (DFS) and overall (OS) survivals according to aCT use in multivariate analysis

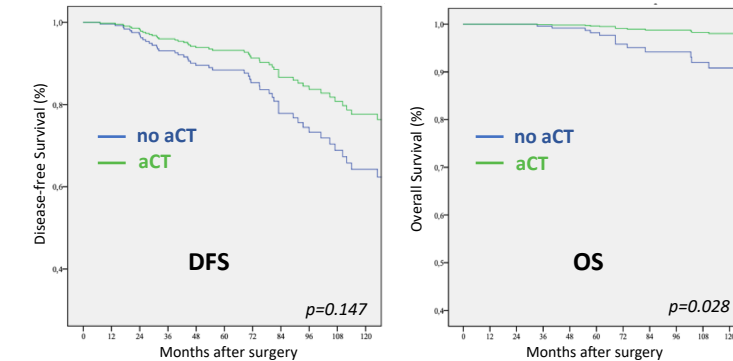


Table 2 : Multivariate analysis

Multivariate	DFS				OS			
	HR	95% CI		p value	HR	95% CI		p value
		min	max			min	max	
Tumor size (mm)								
< 30	Reference category				Reference category			
≥ 30	2.40	1.28	4.52	0.007	5.04	1.70	14.95	0.004
SBR grade								
1	Reference category				Reference category			
2	1.51	0.82	2.76	0.184	1.51	0.53	4.25	0.437
Lymph node involvement								
pN0	Reference category				Reference category			
pN1macro	1.17	0.59	2.31	0.648	10.57	2.41	46.40	0.002
Radiotherapy								
No	Reference category				Reference category			
Yes	0.89	0.36	2.16	0.791	0.15	0.03	0.62	0.009
Endocrine therapy	1.18	0.53	2.64	0.686	0.87	0.22	3.37	0.835
Chemotherapy	0.57	0.27	1.22	0.147	0.21	0.05	0.84	0.028