Non-organizational factors associated with delayed adjuvant chemotherapy (AC) in colon cancer (CC): an epidemiological study in « Région Centre », France

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BACKGROUND

- Negative prognostic impact of delayed time to AC in CC, beyond the 42th postoperative day
- Programs in several countries aim to reduce these delays
- Little is known about non-organizational associated factors

OBJECTIVE

Investigate and analyze the non-organizational factors influencing delay between colectomy and initiation of AC in CC

METHODS

Retrospective observational epidemiological study based on cases selected from regional hospital discharge database

Study population:

- Included: all adults patients operated on for CC stages 2 or 3 in « Région Centre » in 2013
- Exclusion criteria: patients with rectal cancer or past history of CC

Data collected from medical records:

- Time to AC after surgery
- Likely non-organizational associated factors:
  ⇒ age, sexe , familial and employment situation,
  ⇒ circumstances of diagnosis including emergency surgery, postoperative morbidities, and type of colectomy)

Analysis:

- Univariate and multivariate analysis performed using linear regression generalized model (LGM)

RESULTS

- 408 colectomy cases for CC included :
  ⇒ 182 received AC (45%)

### Table 1: baseline characteristics of population

Characteristics		Population with AC (n=182)	Population without AC (n=222)	p
Age, years	(mean, SD)	**67.6 (10.5)**	**77.9 (10.6)**	**<0.0001**
Time to AC, days	(mean, min - max)	52.9 (20 - 214)	-	
	(median, Q1 - Q3)	48.5 (38 - 60.5)	-	
Time to AC exceeds	6 weeks (%)	60	-	
	8 weeks (%)	29	-	
	12 weeks (%)	6	-	

Table 2: multivariable analysis* of time from colectomy to adjuvant chemotherapy (n=126)

Variables	Modalities	regression coefficient	p
Intercept		28,7	0,009
Gender	Male	Réf.	
	Female	-3,7	0,16
Age (years)	<50	Réf.	
	50-74	0,6	0,9
	>=75	2,7	0,65
Living in couple	Yes	Réf.	
	No	**8,3**	**0,012**
T stage	T2	Réf.	
	T0 / T1 / T in situ	19,8	0,02
	T3	15,6	0,01
	T4	13,0	0,04
Colectomy type	Transverse colectomy	Réf.	
	Right colectomy	2,0	0,76
	Left colectomy	-0,4	0,95
	Total colectomy	-0,7	0,94
Cancer detecting mode	Clinical signs	Réf.	
	Emergency colectomy	**8,7**	**0,03**
	Organized screening	6,7	0,1
	Others	-4,0	0,4
Postoperative morbidities	No	Réf.	
	Yes	7,2	0,056

* Adjusted on regional departments

Figure 1: distribution of time to AC in weeks

Median Time to AC : 6.9 weeks
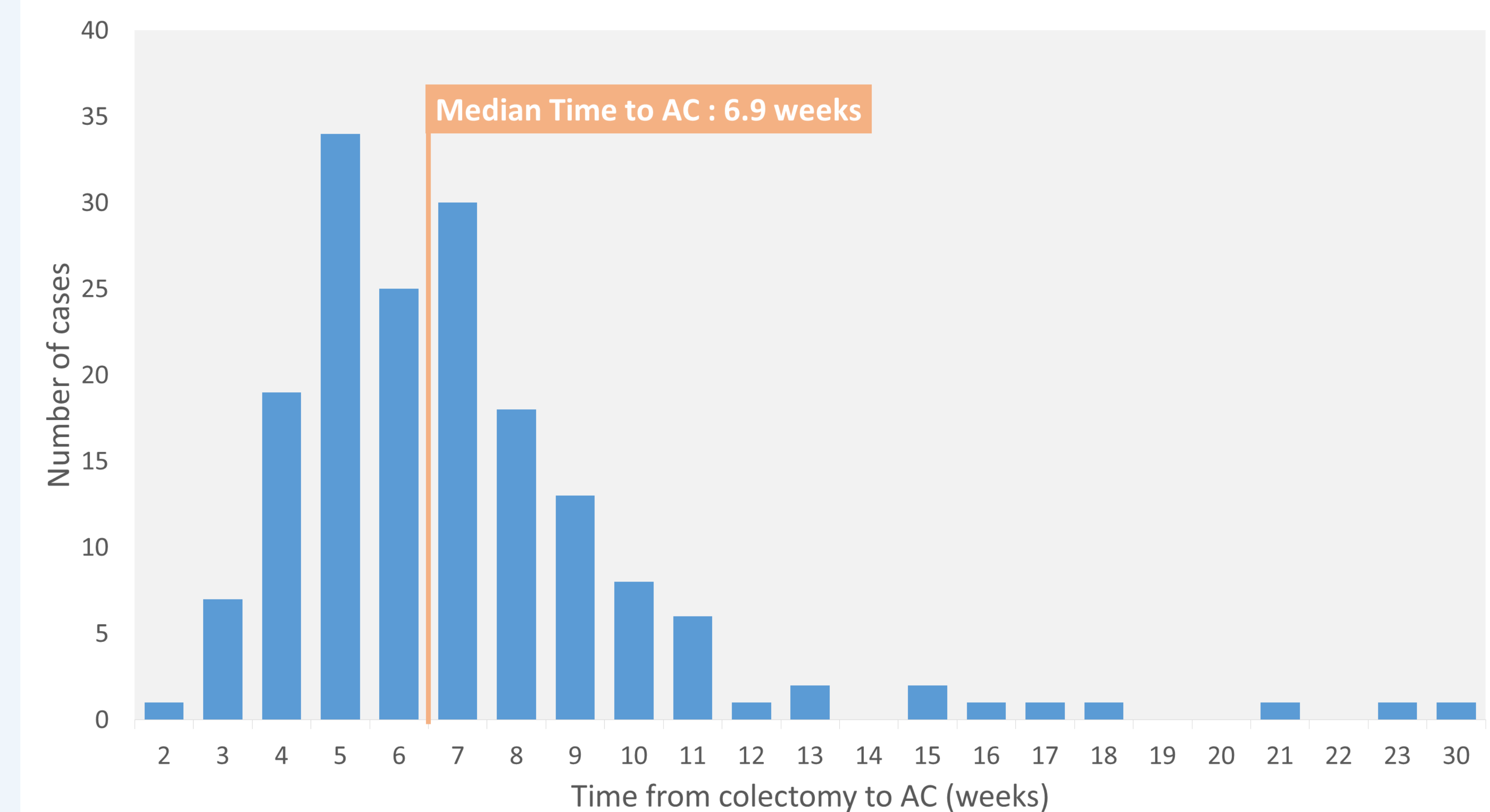
CONCLUSIONS

- Delays between colectomy and adjuvant chemotherapy are consistent with those of French National study
- 60% of the patients received adjuvant chemotherapy beyond 6 weeks
- Age is not associated with an increased delay but rather is a factor of omission of adjuvant chemotherapy[1-2]
- Three non organizational factors associated with an increased delay (coherent with other studies):
  ⇒ **Not living in couple** (+8.3 days, p<0.05)[3]
  ⇒ **Emergency colectomy** (+8.6 days, p<0.05)[4]
  ⇒ **Postoperative morbidity** (+7.2 days, p=0.056)[5]
- These factors might limit the impact of strategies aimed to act on organizational factors

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