ROLE OF CIRCULATING TUMOR CELLS (CTC) IN STAGE III COLONIC CANCER (CRC)


1Medical Oncology, Hospital Universitario Clínico San Carlos, Madrid, SPAIN
2Central Laboratory, Hospital Universitario Clínico San Carlos, Madrid, SPAIN
3Medical Oncology, Hospital Universitario Central de Asturias, Oviedo, SPAIN
4Medical Oncology, Hospital Universitario Miguel Servet, Zaragoza, SPAIN
5Medical Oncology, Hospital Universitario Doce de Octubre, Madrid, SPAIN
6Medical Oncology, Hospital Universitario Lozano Blesa, Zaragoza, SPAIN
7Medical Oncology, Complejo Hospitalario de Navarra, Pamplona, SPAIN
8Medical Oncology, Hospital Reina Sofia, Córdoba, SPAIN
9Medical Oncology, Hospital Universitario Gregorio Marañón, Madrid, SPAIN
10Medical Oncology, Hospital Universitario de Elche, Elche, SPAIN
11Medical Oncology, Hospital Marqués de Valdecilla, Santander, SPAIN
12Medical Oncology, Corporacio Sanitaria Parc Taulí Institut Universitari, Sabadell, SPAIN
13Medical Oncology, Hospital Son Llatzer, Palma de Mallorca, SPAIN
14Medical Oncology, Hospital General de Granollers, Granollers, SPAIN
15Medical Oncology, Hospital Virgen de las Nieves, Granada, SPAIN
16Medical Oncology, Hospital Vall d’Hebron, Barcelona, SPAIN
17Medical Oncology, Hospital Universitario de Valme, Seville, SPAIN

Aim: CTC detection has proved to be an independent prognostic factor in metastatic CRC. However, the prognostic role of CTC in early CRC has not been determined yet. We evaluated the potential role of CTC in identifying stage III CRC patients (pts) with a higher risk for relapse.

Methods: Prospective multicenter study of 519 pts with stage III CRC recruited between January 2009 and June 2010. CTC were enumerated with the CellSearch System in 7.5 ml of peripheral blood after primary tumor resection and before the start of adjuvant therapy. We present the first analysis after 3 years of follow-up. A total of 472 were included in this analysis (data from the remaining 47 pts were not available at the time of analysis).

Results: Stages: IIIA (n = 35, 7%), IIIB (n = 346, 73%), IIIC (n = 91, 19%). CTC ≥1, ≥2, ≥3 and ≥5 were detected in 166 (35%), 93 (20%), 57 (12%) and 34 (7%) pts, respectively. Median follow-up was 40 months. During this period 135 pts (29%) relapsed and 80 pts (18%) died. In the overall population, the presence of CTC ≥1 was not associated with an increased risk of relapse (HR for disease-free survival (DFS): 0.97, IC 95%: 0.68-1.38, P = 0.85) or death (HR for overall survival (OS): 1.03, IC 95%: 0.66-1.59, P = 0.89). CTC ≥2, ≥3 and ≥5 were not associated with worse DFS and OS. CTC ≥1 was significantly more frequent in pts with stage IIIC (IIIA 40%, IIIB 32%, IIIC 47%; P = 0.016), as it was a higher percentage of relapse (IIIA 21%, IIIB 17%, IIIC 58%). In pts with stage IIIA, CTC ≥1 and ≥2 were associated with an increased risk of relapse (CTC ≥1 vs. <1: HR 1.62, IC 95%: 0.33-8.05, P = 0.55; CTC ≥2 vs. <2: HR 1.93, IC 95%: 0.35-10.55, P = 0.45) and death (CTC ≥1 vs. <1: HR 2.04, IC 95%: 0.46-9.16, P = 0.35; CTC ≥2 vs. <2: HR 2.14, IC 95%: 0.47-9.69, P = 0.32), although statistical significance was not reached, probably due to the small sample size in this subgroup. Detection of CTC ≥1 and ≥2 was not associated with an increased risk of relapse or death in pts with stage IIIB and IIIC.

Conclusions: CTC presence was more frequent in pts with higher risk of relapse. Detection of CTC ≥1 and ≥2 appears to be associated with worse DFS and OS, in pts with stage IIIA CRC. However, a longer follow-up of pts in this study is needed.

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