PRECISION ONCOLOGY IN SURGERY: PATIENT SELECTION FOR OPERABLE RECURRENT HEPATIC OVARIAN CANCER

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OBJECTIVE

- To describe the oncological outcomes after hepatic resection (HR) in recurrent ovarian carcinoma (ROC) evaluating clinic-pathological variables and mutational status of BRCA.
- Although HR is considered a challenging situation in ROC patients, assessment of BRCA1/2 mutational status seems to have a relevant clinical value to guide surgical therapy.

METHODS

- Patients who underwent HR for ROC at the Catholic University of Rome, between June 2012 and October 2017 were included.
- Exclusion criteria were represented by extra-abdominal disease and presence of diffuse peritoneal carcinomatosis requiring more than 2 bowel resections.

RESULTS

- Thirty-four patients underwent HR within secondary cytoreductive surgery (SCS).
- Six patients (17.6%) presented with hepatic relapse only, while the remaining 28 patients (82.4%) had concomitant extra-hepatic disease.
- In the whole series, the 3-yr PHR-PFS was 49.1% and the 3-yr post-HR overall survival was 72.9%.
- Uni-variate analysis of variables conditioning PHR-PFS showed that **only BRCA mutational status played a statistically significant favorable role**: the 3-yr PHR-PFS rate was 81.0% in BRCA mutated patient compared to 15.2% in wild type ones (*p* value: 0.001).

Post-hepatic resection PFS (PHR-PFS) in the whole series (A) and according to BRCA 1/2 mutational status (B).

Univariate analysis of prognostic parameters of post-relapse progression free survival.

Variable	N. (%)	HR (95% CI)	p value
FIGO stage at diagnosis			
I/II	5 (14.7)		
III/IV	29 (85.3)	1.075 (0.228, 5.073)	0.927
BRCA 1/2 mutational status			
Wild-type	13 (38.3)		
Mutated	20 (58.8)	0.064 (0.008, 0.516)	0.001
N.a.	1 (2.9)		
PARP Inhibitors therapy			
No	20 (58.8)		
Yes	11 (32.4)	1.887 (0.397-8.977)	0.418
n.a.	3 (8.8)		
Platinum free interval at the time of hepatic disease^a			
≤12 months	7 (22.6)		
>12 months	22 (71.0)	1.472 (0.310, 6.984)	0.624
n.a.	2 (6.4)		
No. of relapse(s) before hepatic disease			
One	22 (64.7)		
Multiple	12 (35.3)	0.606 (0.163, 2.258)	0.450
No. of hepatic segment(s) with disease			
One	19 (55.9)		
Multiple	15 (44.1)	1.508 (0.466, 4.888)	0.489
Site of disease at hepatic resection			
Liver only	6 (17.7)		
Liver and other sites	28 (82.3)	2.951 (0.378, 23.037)	0.278

^a Calculated on 31 patients treated with platinum containing chemotherapy at the time of secondary cytoreduction; PARP= Poly (ADP-ribose) polymerase.

CONCLUSION

Our clinical analyses suggest that in ROC patients with liver disease the assessment of germline and somatic BRCA mutational status can help to select patients eligible for SCS.