

# Expression of CD47 a potent 'don't eat me' signal in ovarian cancer (OC): Correlation with other immune features and evolution under neoadjuvant chemotherapy (NACT), a GINEGEPS study

GINECO

Poster 59P

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# BACKGROUND

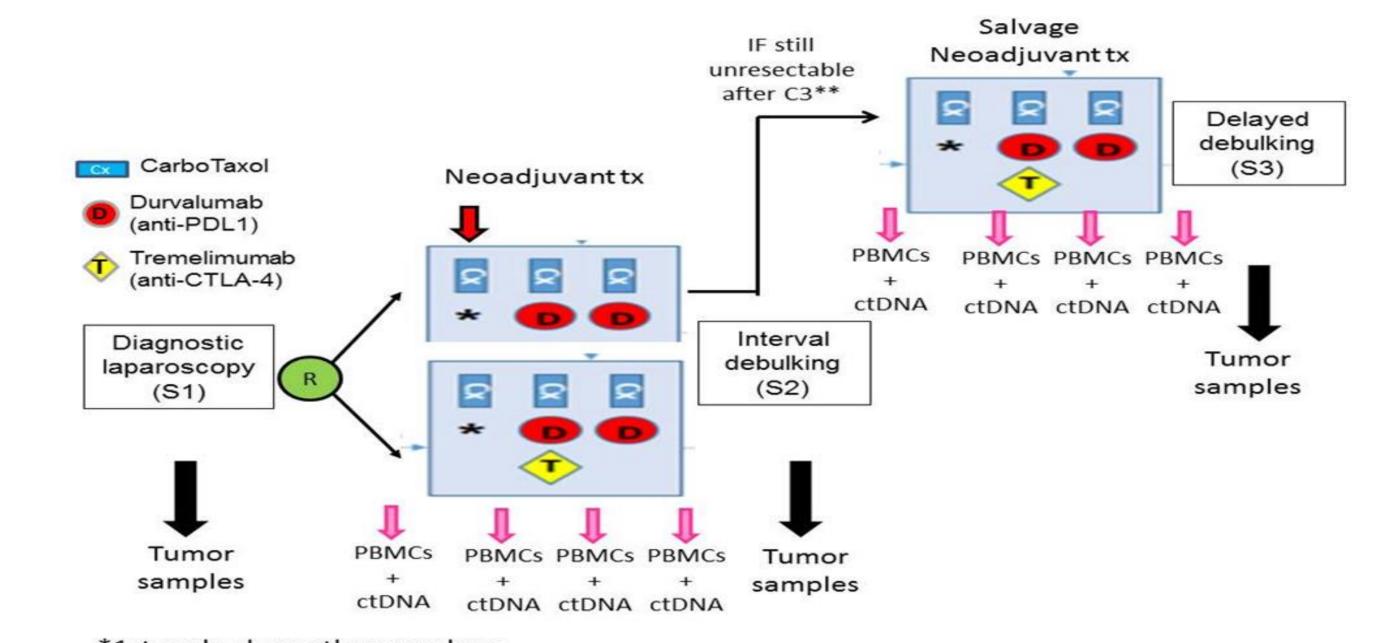
- CD47 is a potent 'don't eat me' signal that promotes tumor immune evasion by inhibiting phagocytosis by macrophages
- CD47 is overexpressed in OC and its expression correlates with poor prognosis
- How CD47 expression relates to other key features in the immune tumor microenvironment (iTME) or changes under treatment remains unknown
- We evaluated CD47 expression on a cohort of OC tumors from 188 patients (CHIVA trial) at diagnosis and after NACT in a clinical trial, CHIVA, and its correlation with other iTME features.

## **METHODS**

#### Immune microenvironment characterization

- Immune cells (IC) were stained for CD8 and CD163 and scored as number of IC+/mm2. A mean score was calculated from three TMA cores from each sample.
- PDL1, LAG3 and TIM3 expression were reported as the average percentage of tumor and immune cells with moderate to strong membranous staining in three TMA cores
- CD47 expression was scored by H-score : staining intensity (0, +1, +2, +3) x % positive cells (0-300)
- Non parametric test : Spearman and Wicoxon

## **CHIVA Study design**

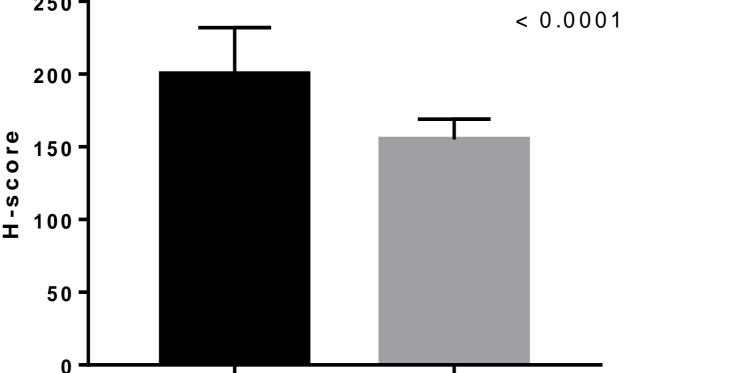


1st cycle chemotherapy alone

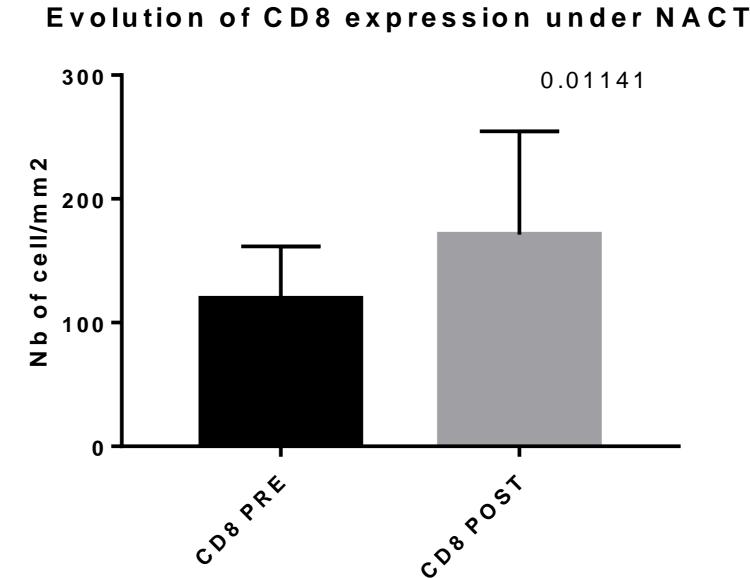
\*\* Unresecability after C3 always confirmed by laparoscopy and tumor samples obtained

## RESULTS

#### CD47 and CD8 expression in paired samples



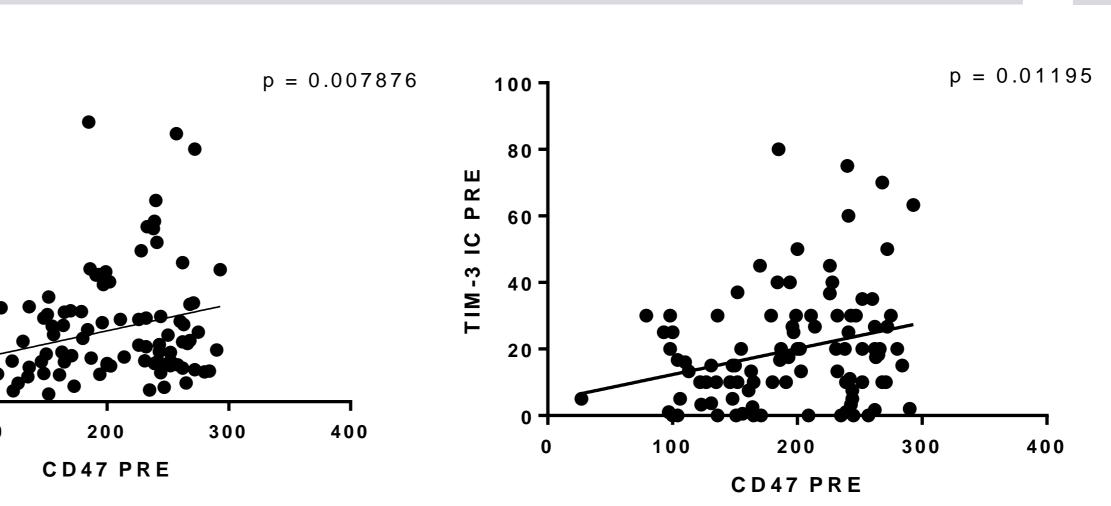
Evolution of CD47 expression under NACT



- CD47 expression at diagnosis was high (median = 200) with 0% completely negative
- Evaluation of CD47 expression in paired samples demonstrated a significant decrease after NACT (paired Wilcoxon ranked test)
- CD8 infiltration increased after NACT

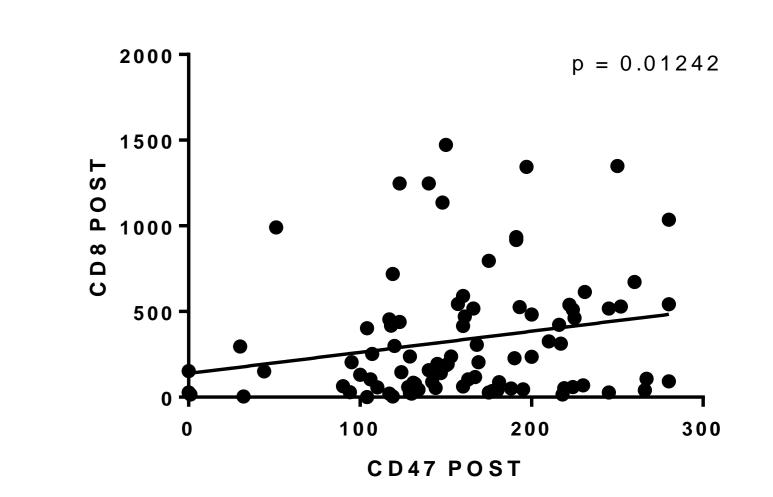
# RESULTS

# Correlation of CD47 expression with immune features at diagnosis



CD47 expression at diagnosis was positively correlated with other mediators of immune tolerance such as the M2 macrophages markers CD163 or T cell exhaustion markers such as TIM-3 (same results for LAG-3 (p\*\*=0.003))

# Correlation of CD47 expression with immune features after NACT



CD47 expression was positively correlated with the presence of CD8+ T cells after NACT

# CONCLUSIONS

- We show that NACT increases CD8+ T cell infiltration and decreased CD47 expression in support of favorable immunomodulatory effects on the iTME in OC
- In addition, our data suggest that immune escape in OC could be the result of concerted overexpression of multiple immune suppressor molecules
- Inhibiting both CD47 and other features from the iTME could represent an attractive strategy to enhance anti-tumor immunity in OC

# ACKNOWLEDGEMENTS

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## First author conflicts of interest

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