

*Il mio primo abstract AIOM
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***Tumor infiltrating lymphocytes after transarterial
chemoembolization of
colorectal cancer liver metastases***

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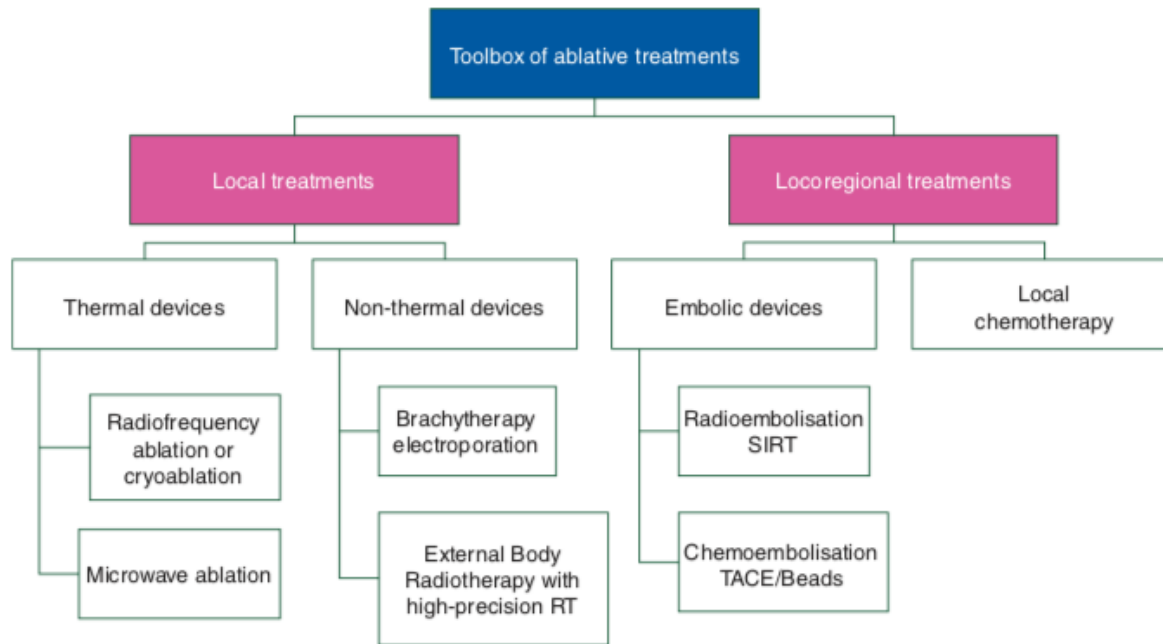
Istituto Oncologico Veneto – IRCCS, Padova



Regione del Veneto

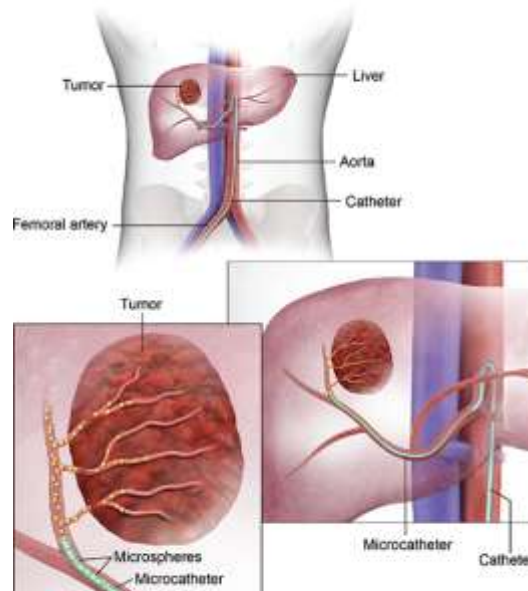
Background: indications of loco-regional therapies in mCRC

In patients with unresectable liver metastases only or oligometastatic disease, local ablation techniques can be considered



Background: what is TACE ?

- ❖ Trans-arterial chemoembolization (TACE) is the most commonly performed procedure for liver tumors
- ❖ Technique: infusion of chemotherapeutic agents followed by embolic particles into the hepatic arteries supplying the liver tumors



Source: Khafed M. Elsayes, Sandra A. A. Oldham: *Introductory to Diagnostic Radiology*
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Background: the effects of loco – regional therapies on liver

Preclinical models have shown that liver loco-regional treatments induce local inflammation and enhance systemic adaptive T-cells response

[CANCER RESEARCH 63, 6496–6500, October 1, 2003]

Activation of Tumor-specific T Lymphocytes by Radio-Frequency Ablation of the VX2 Hepatoma in Rabbits¹

Thädaus Till Wissniowski,² Johannes Hünsler,² Daniel Neureiter, Markus Frieser, Stefan Schaber, Birgit Esslinger, Reinhard Voll, Deike Strobel, Eckhart G. Hahn, and Detlef Schuppan³

Department of Medicine I [J. H., T. T. W., M. F., S. S., B. E., D. St., E. G. H., D. Sc.], Institute of Pathology [D. N.], and Department of Medicine III [R. V.], Friedrich-Alexander University, Erlangen-Nuernberg, 91054 Erlangen, Germany

British Journal of Cancer (2004) 95, 986–995
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www.bjccancer.com

Efficient loading of dendritic cells following cryo and radiofrequency ablation in combination with immune modulation
Roerman¹

MHMGM den Broek^{1,2}, RPM Suttmüller¹, S Nierkens¹, E CG Fidler¹, TIM Buijs² and GI Adema¹



Reliable performance. Reproducible results. Learn how we do it.

The Journal of Immunology
This information is current as of November 10, 2017.

Unmasking of α -Fetoprotein-Specific CD4⁺ T Cell Responses in Hepatocellular Carcinoma Patients Undergoing Embolization
Lakshmi
Yyaru, Stephen P. Pereira, Akeel Alisa, Ansar A. Williams, Brian Davidson, Andrew K. Meyer and Shahrar Behboudi



Journal of Hepatology 43 (2005) 817–822
www.elsevier.com/locate/jhep

Journal of Hepatology

Activation of dendritic cells by local ablation of hepatocellular carcinoma

Mona Y. Ali^{1,3}, Christian F. Grimm^{1,3}, Marcus Ritter¹, Leonhard Mohr¹, Hans-Peter Allgaier¹, Robert Weth¹, Wulf O. Bocher², Katja Endrulat¹, Hubert E. Blum¹, Michael Geissler^{1,*}

¹Department of Medicine II, University Hospital Freiburg, Hugstetter Strasse 55, D-79106 Freiburg, Germany

Background: role of TILs in mCRC

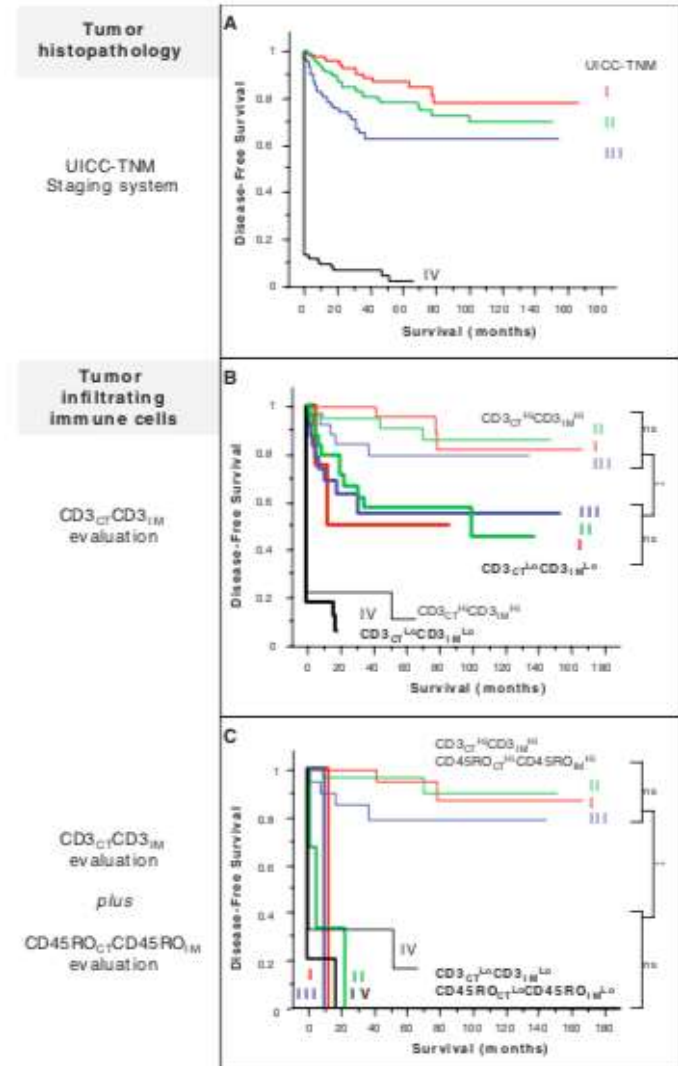
Type, Density, and Location of Immune Cells Within Human Colorectal Tumors Predict Clinical Outcome

Jérôme Galon,^{1*†} Anne Costes,¹ Fatima Sanchez-Cabo,² Amos Kirilovsky,¹ Bernhard Mlecnik,² Christine Lagorce-Pagès,³ Marie Tosolini,¹ Matthieu Camus,¹ Anne Berger,⁴ Philippe Wind,⁴ Franck Zinzindohoué,⁵ Patrick Bruneval,⁶ Paul-Henri Cugnenc,⁵ Zlatko Trajanoski,² Wolf-Herman Fridman,^{1,7} Franck Pagès^{1,7†}

In mCRC type, density and location of TILs have a prognostic significance superior to that of TNM classification system



Galon et al. Science 2006;



Endpoints

- ❖ **Primary:** assess the effects of TACE on intra- and peri-tumoral inflammatory infiltration in CRC liver metastases
- ❖ **Secondary:** to test if TACE could increase the number of TILs



Study population

1406 CRC pts
(Jan 2010 – Dec 2016)



586 pts with liver limited disease



41 pts underwent at least one TACE



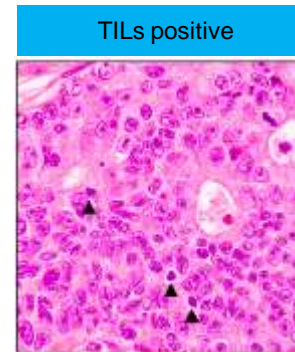
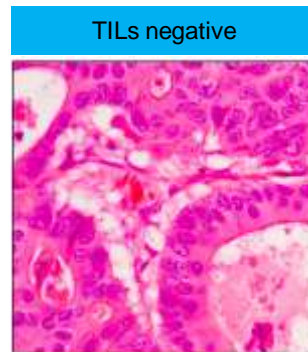
16 pts underwent liver resection after TACE

**ELIGIBLE
PATIENTS**

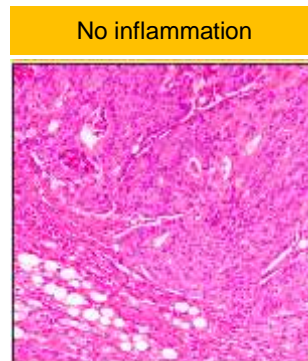
9 pts underwent liver resection also before TACE

Materials and methods

- ❖ Evaluation of TILs: low < 2 per hpf, high ≥ 2 per hpf



- ❖ Evaluation of Peritumoral Inflammation (PF)



Results: population features

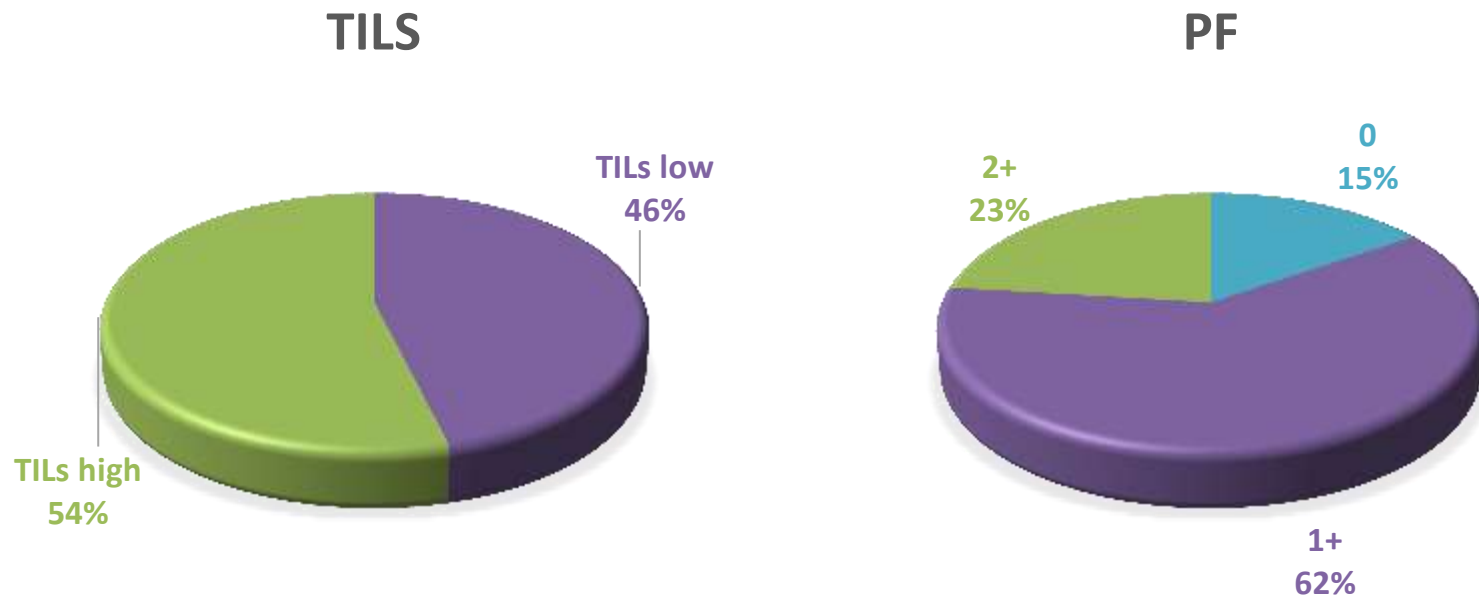
- ❖ Median age 58 years
- ❖ Gender: 12 males and 4 females
- ❖ 1 pts with microsatellite instability
- ❖ Median n° of chemotherapy lines administered before TACE: 1 (range 0-2)



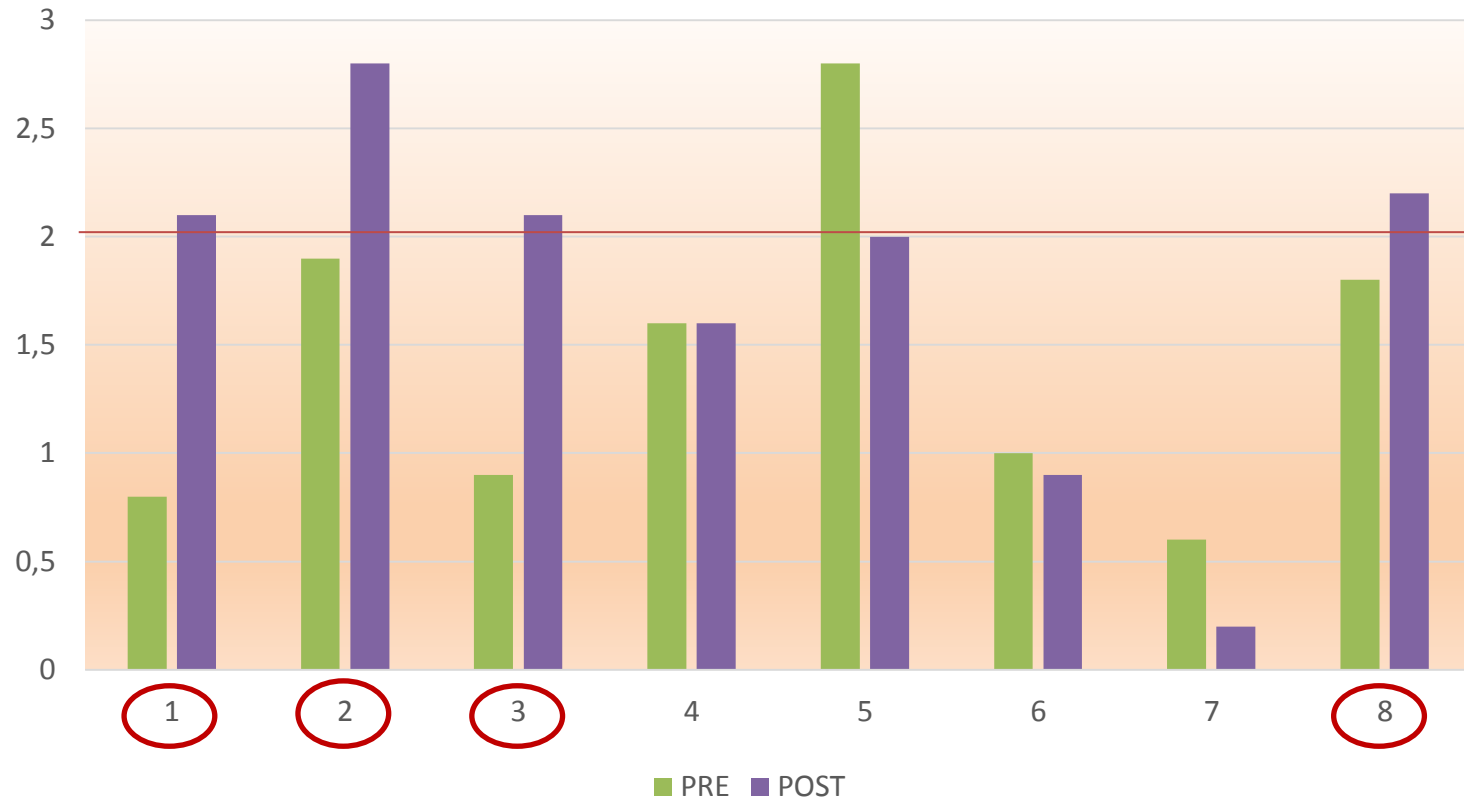
Results: effect of TACE on TILs and PF

Pathological characteristics of colorectal liver metastases after TACE...

N° of evaluable patients = 13



Results: could TACE enhance TILs?



50 % of patients switched to “TILs high” following TACE

Conclusions

TACE appears to stimulate immune response through an increased of number of TILs

- ❖ After TACE TILs-high status was identified in **54%** of colorectal liver metastases

In literature TILs high status was identified in **30%** of colorectal adenocarcinoma

- ❖ **50%** of patients switched to TILs high following TACE

Future perspectives

- ❖ In future the study through digital pathology of this selected population can help to better understand the effect of TACE on colorectal cancer liver metastases
- ❖ Could the enhancement of the immune response by TACE open the doors to a possible combination between TACE and immunotherapy?





TO...

Letizia Procaccio

Fotios Loupakis

Sara Lonardi

Matteo Fassan