City of Hope.

Impact of Immune Assessment on Patterns of Care In Stage II Colon Cancer

Afsaneh Barzi[1], Graham M. Poage[2], Aurelie Catteau[3], Dewi Vernerey[4]

1. City of Hope Comprehensive Cancer Center, CA 2. HalioDx, Richmond, VA, 3. HalioDx, Marseille, FR 4. Methodology and Quality of Life in Oncology Unit, Besançon University Hospital, Besançon, FR

abarzi@coh.org

PRESENTED AT:
ASCO Quality Care Symposium

Slides are the property of the author, permission required for reuse.

#ASCOQLTY20

Background

- Clinicopathologic risk assessment forms the basis of adjuvant treatment planning for the 25% of patients diagnosed with potentially curable stage II colon cancer (CC). Current risk factors are imperfect, resulting in misclassification and unnecessary postoperative interventions for many patients.

- Randomized trials have not shown a clinically significant benefit of adjuvant chemotherapy in stage II CC, including those with high risk disease.

- Immunoscore® (IS), measuring the host immune response at the tumor site, could be a valuable tool to better define individual patient prognosis.

- The clinical performance of IS was validated in the international SITC-led study of over 3000 stage I-III colon cancers (1), and in stage III patients treated with adjuvant therapy (2,3). Immunoscore was recently included in the ESMO clinical practice guidelines (4).

1. Pagès F et al. Lancet. 2018   2. Sinicrope et al. JNCI-CS. 2020   3. Pagès et al. Ann Oncol. 2020   4. Argiles et al. Ann Oncol. 2020

PRESENTED AT: ASCO Quality Care Symposium

Slides are the property of the author, permission required for reuse.

PRESENTED BY: Afsaneh Barzi, MD,PhD

#ASCOQLTY20

Background

Figure 1. Relative Variable Prediction of High-Risk, Stage II Patient Survival

Immunoscore 60%
Sex 0.6%
MSI 2.7%
Sidedness 3.2%
VELIPI 3.6%
T stage 7.2%
Mucinous (colloid) 7.2%
Differentiation 15.5%
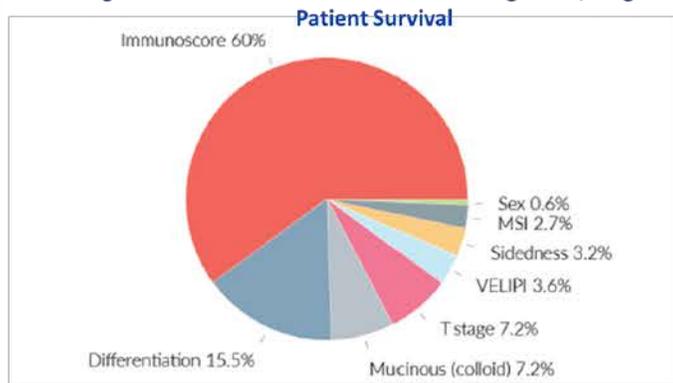
Figure 2. Clinical Value for Immunoscore to Identify Biologically Low-Risk Patients

89.1%
87.4%
72.2%

LOW Clinical risk (N = 500)
HIGH Clinial Risk - Immunoscore-High (N = 438)
HIGH Clinical Risk - Immunoscore-Low (N = 192)
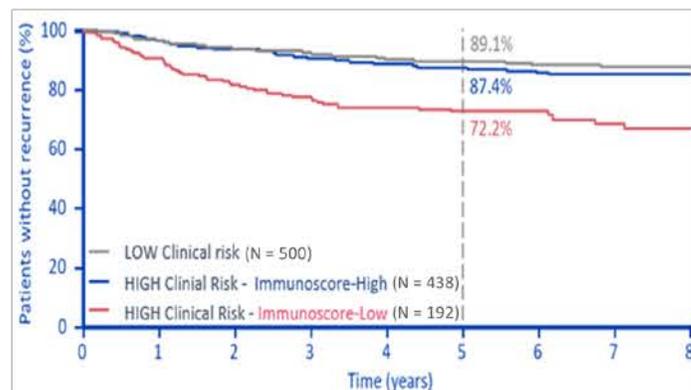
Figure 3. Immunoscore Identifies Low-Risk Untreated T4N0 Patients

87.5%
40.8%

Immunoscore-High (N = 87)
Immunoscore-Low (N = 45)
HR = 8.33; $p<0.0001$
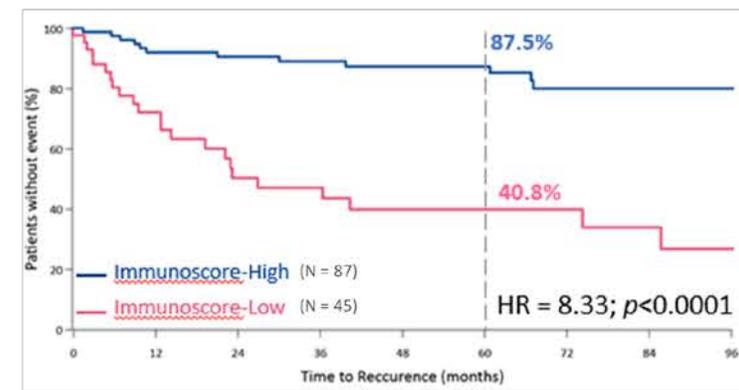
4. Galon J et al. ASCO Symposium. 2020   5. Galon J et al. ASCO GI Symposium. 2019

- Immunoscore contributes the most prognostic information relative to other clinicopathological risk parameters in high-risk stage II colon cancer (Figure 1) even among the T4N0 subgroup (5)

- Immunoscore identifies a large subset (70%) of clinicopathologically high-risk stage II colon cancer patients who have a similar 5yr-TTR to clinicopathologically low-risk patients (6) and who could potentially be spared from the harms of adjuvant chemotherapy (Figure 2)

- Among the stage II patients with T4 tumors, IS-High patients experience a low recurrence rate in the absence of adjuvant chemotherapy (Figure 3)

We explored how oncologists utilized the IS information to care for patients with stage II disease

Methods

Oncologists were presented with 10 patient profiles (real-life, de-identified stage II cases submitted for clinical Immunoscore testing) and queried for their recommendations (adjuvant chemotherapy and frequency of surveillance) via an online survey. Next, they took part in a 45min presentation on Immunoscore data and were asked to evaluate the same cases, but this time with the Immunoscore classification (High or Low) assigned.
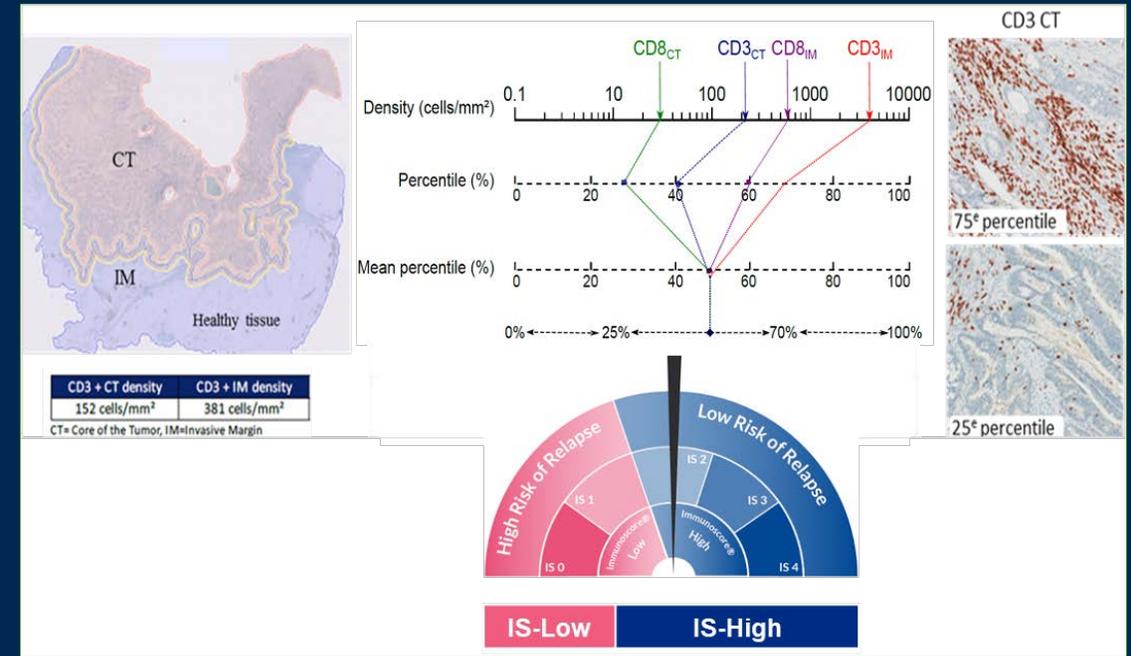
A physician was counted as influenced by immune response assessment when there was at least one therapeutic modification (chemotherapy decision or surveillance intensity change) after an Immunoscore test result was provided. We hypothesized that a rate of practice change of 30% (H1) would be considered an impactful result, while 10% would not be impactful (H0). According to A'Hern's design with a one-sided alpha of 5% and 80% power, 25 physicians needed to be included to test the hypothesis.

Results

- 55% of the physicians altered chemotherapy or surveillance practice patterns across the 10 patient cases, therefore the objective of the study was reached.

- There was a higher rate of Chemotherapy recommendation changes than modification to surveillance practice

  - Physicians changed their recommendations for adjuvant chemotherapy and surveillance interval 34% and 21% of the time, respectively, consistent with the assay's clinical utility (e.g. de-escalation for Immunoscore-High cases)

- The mean number (range) of cases for which physicians altered practice recommendations after an Immunoscore test result was 5 (0-10) patient case. All but one physician changed their recommendation for at least 1 case

Figure. 4 Impact of Immunoscore Testing on Clinical Decisions
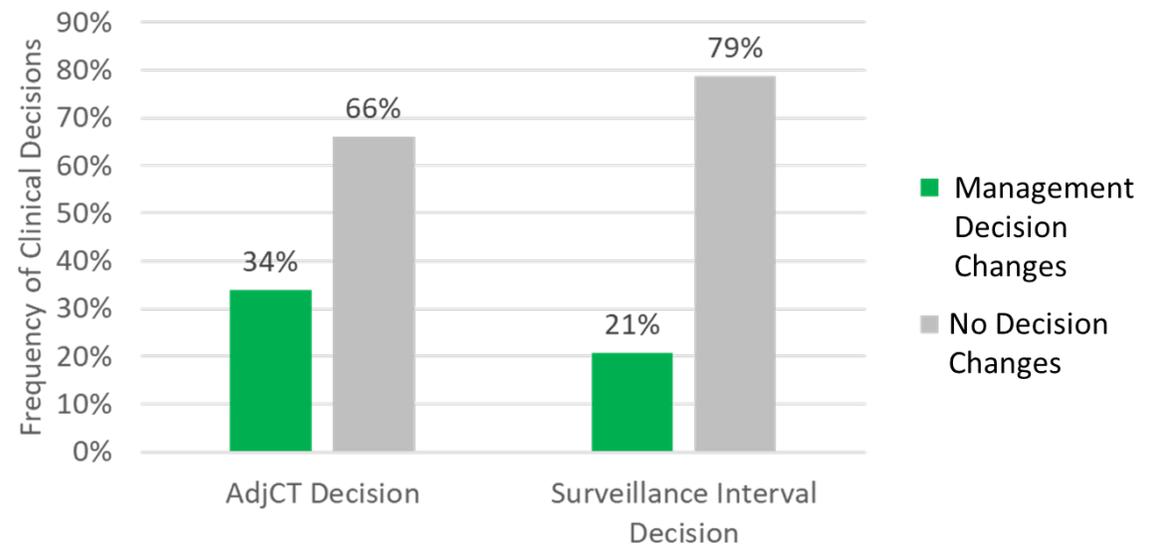
Results

Figure 5. Adjuvant Chemotherapy Decisions Based on Prognostic Factors (Pre-Immunoscore Testing)
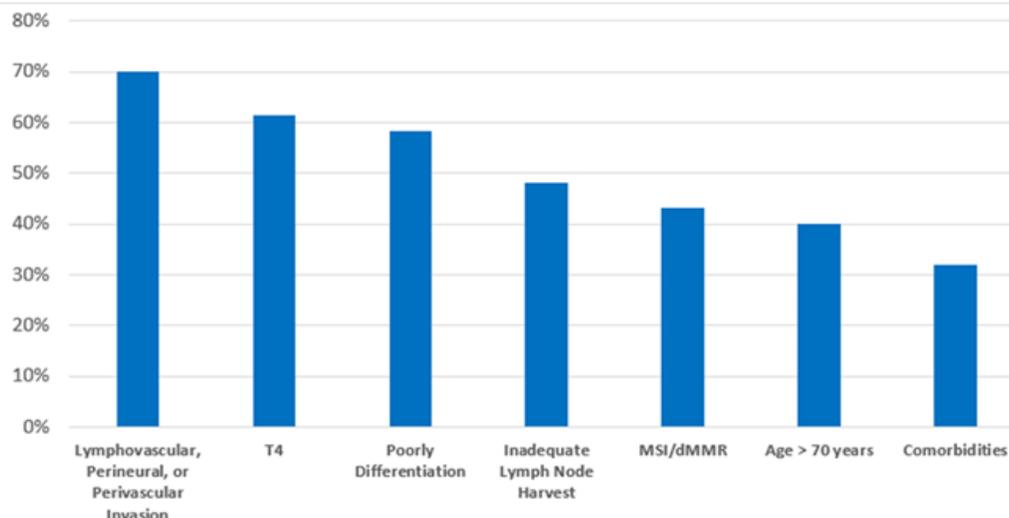
- In alignment with real-world clinical practice, cases with lymphovascular invasion, T4 stage, and poor differentiation status were most often recommended for adjuvant chemotherapy before testing

Table 1. Impact of Clinical Risk Factors on Chemotherapy Recommendations

Tumor/ Case Factor*	N (%)	Pre-Test (N=10)	Post-Test Immunoscore-High (N=7)	Post-Test Immunoscore-Low (N=3)
Lympho-vascular Invasion	2 (20%)	70% / 30%	32% / 68%	N/A
T4	3 (30%)	61% / 39%	40% / 60%	N/A
Poor Differentiation	7 (70%)	58% / 42%	39% / 61%	73% / 27%
Inadequate Lymph Node Harvest	1 (10%)	48% / 52%	16% / 84%	N/A
MSI/dMMR	5 (50%)	43% / 57%	22% / 78%	72% / 28%
Age > 70 years	4 (40%)	40% / 60%	16% / 84%	74% / 26%
Comorbidities	2 (20%)	32% / 68%	16% / 84%	60% / 40%

Legend: Red = Adjuvant Chemotherapy; Blue = No Adjuvant Chemotherapy

* None of the cases had bowel perforation/obstruction

Conclusions

- Immunoscore classification significantly impacted treatment decision-making for stage II colon cancer patients, especially those with high risk disease.

- This impact can improve the value of care by reducing unnecessary adjuvant chemotherapy and improving the precision of care, by delivering treatment to the right patient.

- Prospective exploration of these concepts is underway.