926eP - Functional chemosensitivity testing using primary and metastatic tumour samples in metastatic colorectal cancer

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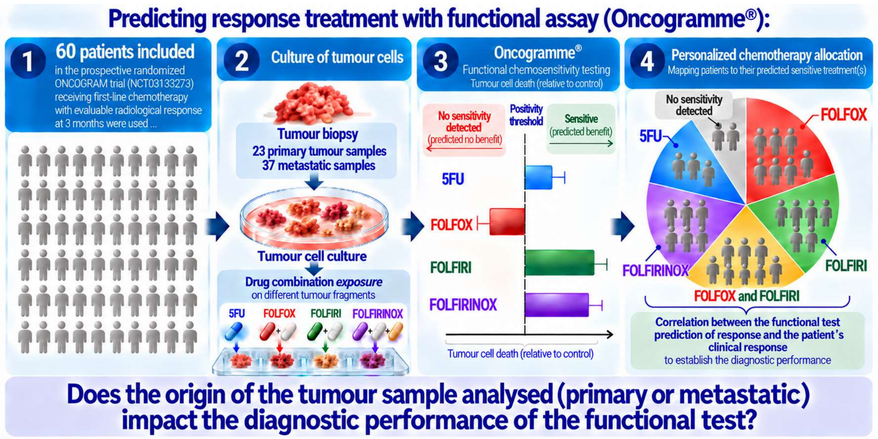
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Introduction

Adjuvant therapy has become a cornerstone of colorectal cancer (CRC) management. For resectable stage IV advanced cancers, chemotherapy improves the prognosis, in the absence of curative surgery. The use of adjuvant chemotherapy is questioned, as adverse effects or resistance to treatment can worsen the prognosis. The molecular heterogeneity between primary and metastatic tumour samples and its impact on chemotherapy response remains to determine. Predicting the efficacy of chemotherapy regimens before treatment can optimize the therapeutic choice. This is possible by using functional *ex vivo* assay[1] like the Oncogramme®[2]: we evaluated its predictive performance, and, as functional *ex vivo* assays require viable tumour tissue, and metastatic sampling is invasive and clinically challenging, the performance was analysed in samples from either primary tumour or metastasis.

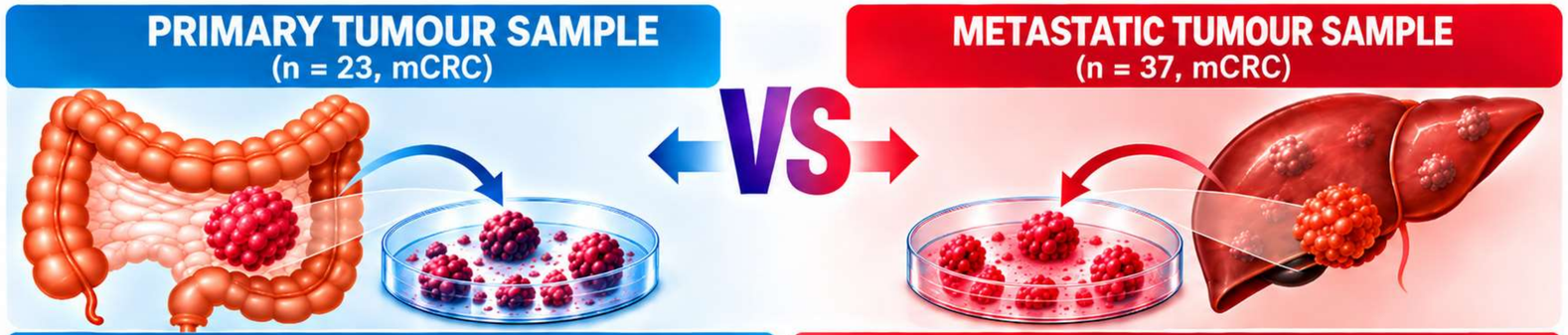
Methods [3,4]



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Results



Predictive performance – Primary tumour (n = 23)

58,8 % Sensitivity	100 % Specificity	100 % PPV	46,1 % NPV

Predictive performance – Metastatic tumour (n = 37)

70,0 % Sensitivity	71,4 % Specificity	91,3 % PPV	35,7 % NPV

No significant difference in the global predictive performance of the functional test Oncogramme® was identified between primary and metastatic tumour sampling (p > 0.05).

PREDICTIVE PERFORMANCE – Global (n = 60)

66,0 % Sensitivity	84,6 % Specificity	93,9 % PPV	40,7 % NPV

With a **global PPV of 94%** for functional chemosensitivity testing, access to viable tumour tissue may be more critical than tumour origin itself.

15 patients had paired tumour samples (primary/metastatic or metastatic/metastatic), with corresponding Oncogramme® results.

Origin of the two samples (from the same patient)	Discordant results	Concordant results	Total conditions tested	Number of patients
Metastasis – primary	9	15	24	6
Metastasis – metastasis	18	18	36	9
Total	27	33	60	15

The difference in the distribution of observed sensitivities is not significant – the sensitivity results are different for all treatments in only two cases.

Discussion - Conclusion

Predictive performance is maintained regardless of the tumour site in the mCRC. This suggests that access to viable tumour tissue —regardless of site, whether primary or secondary— is more critical than the origin of the tumour tissue itself for performing functional chemosensitivity tests. The Oncogramme® can be widely integrated into routine clinical practice. Furthermore, a discrepancy between the functional results obtained from a resected primary tumour and those obtained, at a later stage, from metastatic tissue warrants reconsideration of adjuvant chemotherapy.

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