INTRODUCTION

Delayed diagnostic resolution in individuals seeking care for signs and symptoms for cancer can affect outcomes, patient experience, and the efficiency of cancer care.

When cancer is detected, the machine-learning algorithm discerns cancer signal from non-cancer signal.

The Circulating Cell-free Genome Atlas (CCGA; NCT02889978) study is a prospective, multi-center clinical trial, with the goal of detecting and characterizing cancer signal circulating in the blood of individuals presenting with a cancer signal detected result among cancer participants with a cancer type across all clinical settings.

Multi-Cancer Detection Test

Detects cancer signal and predicts cancer signal origin through machine-learning analysis of methylation patterns in cfDNA circulating in the blood.

Materials and Methods

Study Design and Participants

The Circulating Cell-free Genome Atlas (CCGA; NCT02889978) is a prospective, multi-center clinical trial, with the goal of detecting and characterizing cancer signal circulating in the blood.

In the second phase of the CCGA study, multi-cancer detection test performance was assessed in a cohort of individuals with a history of cancer.

In addition, the test participants had a significant non-malignant medical condition at enrollment and 137 non-cancer participants enrolled through a hematology clinic were included in the analysis.

RESULTS

Study Population

A total of 1207 unique participants were included in the analysis, and 137 non-cancer participants enrolled through a hematology clinic were included in the analysis.

Overall, 21.6% of the participants had a cancer signal detected result on the test. The majority of the participants were women (58.7%) and non-Hispanic white (82.9%).

Cancer Signal Origin Prediction

Table 2: Sensitivity by Cancer Type

Cancer Type | Sensitivity
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Bladder | 91.4% (53/58)
Bladder and Urothelial | 80.0 (37.6-99.0)
Kidney | 72.0 (52.4-85.7)
Liver/Bile Duct | 62.5 (30.6-86.3)
Pancoas | 40.0 (16.8-66.0)
Pancreas | 70.6 (46.9-86.7)
Pancreas/Gallbladder | 68.0 (44.7-86.3)
Pancras/Gallbladder | 60.0 (37.6-80.0)
Pancreas/Gallbladder and other Gastrointestinal (GI) Cancers | 20.0 (1.0-62.4)
Other GI Cancers | 80.0 (37.6-99.0)
Pancreas/Gallbladder and other GI Cancers | 40.0 (16.8-66.0)
Other GI Cancers | 68.0 (44.7-86.3)
Pancreas/Gallbladder cancers (among cancer types with non-malignant medical conditions or enrolled through hematology clinic) | 93.8% (71.7-99.7%)

References

12. Myeloid Neoplasm
13. Pancreas/Gallbladder
14. Liver/Bile Duct
15. Lymphoma
16. Gallbladder
17. Bladder
18. Urothelial
19. Cancer Type
20. Pancreas/Gallbladder cancers (among cancer types with non-malignant medical conditions or enrolled through hematology clinic) 93.8% (71.7-99.7%)
21. Cancer Signal Origin Prediction
22. Bladder and Urothelial
23. Kidney
24. Liver/Bile Duct
25. Pancreas
26. Pancreas/Gallbladder
27. Other GI Cancers
28. Pancreas/Gallbladder cancers (among cancer types with non-malignant medical conditions or enrolled through hematology clinic)
29. 93.8% (71.7-99.7%)
30. Sensitivity
31. Cancer Type
32. Sensitivity
33. Bladder
34. Bladder and Urothelial
35. Kidney
36. Liver/Bile Duct
37. Pancreas
38. Pancreas/Gallbladder
39. Other GI Cancers
40. Pancreas/Gallbladder cancers (among cancer types with non-malignant medical conditions or enrolled through hematology clinic) 93.8% (71.7-99.7%)
41. Conclusion
42. References
43. Disclosure
44. Acknowledgments
45. Prevalence of cancer signal origin prediction were reported in high but not all cancer types origin
46. detected - 100.0% (1/1)
47. not detected - 100.0% (3/3)
48. not detected - 100.0% (9/9)
49. not detected - 89.2% (66/74)
50. not detected - 91.4% (53/58)
51. not detected - 100.0% (3/3)
52. not detected - 100.0% (3/3)
53. not detected - 100.0% (3/3)
54. not detected - 100.0% (3/3)
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79. not detected - 100.0% (3/3)
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81. not detected - 100.0% (3/3)
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83. not detected - 100.0% (3/3)
84. not detected - 100.0% (3/3)
85. not detected - 100.0% (3/3)
86. not detected - 100.0% (3/3)
87. not detected - 100.0% (3/3)
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89. not detected - 100.0% (3/3)
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94. not detected - 100.0% (3/3)
95. not detected - 100.0% (3/3)
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99. not detected - 100.0% (3/3)
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