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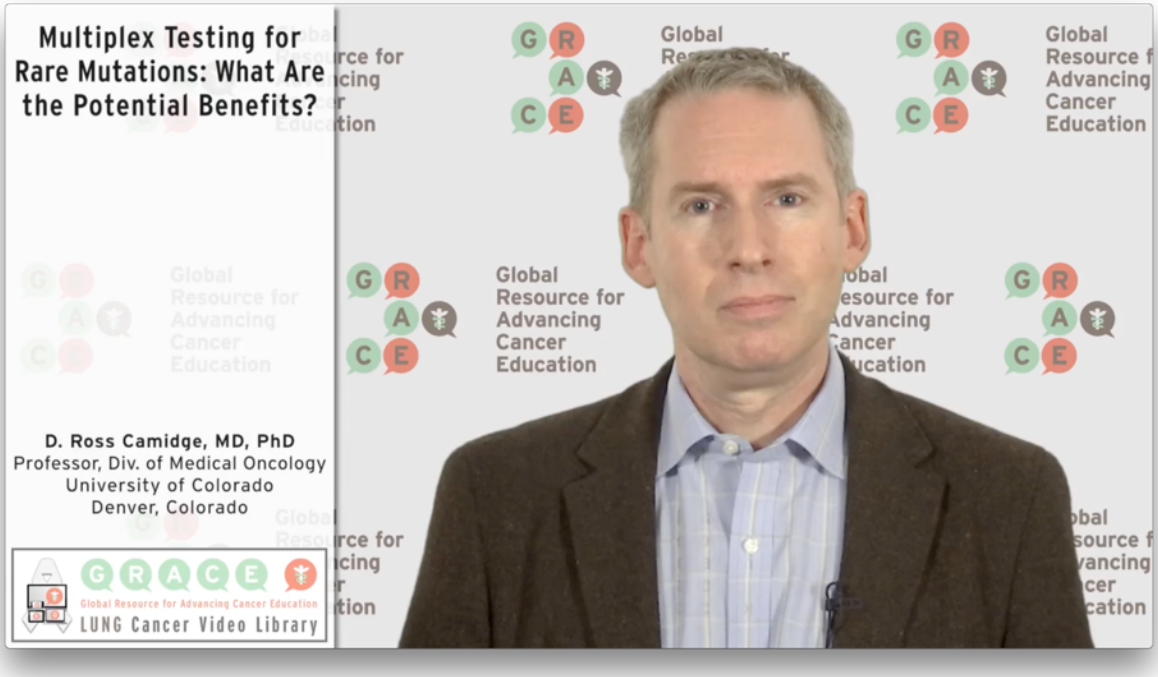
Multiplex Testing for Rare Mutations: What Are the Potential Benefits?



TRANSCRIPT & FIGURES

More and more, when people are doing molecular testing on their tumor, they're not just getting one test and if it's negative doing another test – that's called sequential testing, they're doing lots of tests at the same time – that's called multiplex testing. There are certain good things about that and certain things which are less than good.

In terms of good things, if you do a whole bunch of tests at the same time, you don't have as long a delay. If you test sequentially it may take you a while before you get to the positive and if you want to make a decision on your treatment as soon as possible, it's good to get all the information upfront. Also because when you do the sequential testing, each individual way of preparing the tissue wastes some; multiplex testing is a more efficient use of the tissue, so it reduces the chance that you're going to need another repeat biopsy.

There's a certain health economic advantage when you utilize multiplex testing, it is what's called a noncumulative increase in cost. So to look for ten mutations doesn't cost as much as ten times looking for one mutation. Maybe it costs two or three times as much, and you can add on extra tests.

Perhaps one of the reasons why we're most enthused by this idea of multiplex testing is you're going to find some of these rarer abnormalities. Not just the ALK and the EGFR, but increasingly, there's a collection of abnormalities which are actionable, sometimes through licensed drugs which are not yet licensed in lung cancer but licensed in other diseases, sometimes because they're an entry into a specific clinical trial. Examples that spring to

mind in lung cancer include RET rearrangements, ROS1 rearrangements, and BRAF mutations.

I said there were a few things which were not good. Perhaps the biggest thing is there are some companies commercially doing this who perhaps are adding too many unnecessary tests, and by that I mean tests that really haven't got any proven value and they're using up your tissue, they're increasing the expense to your insurance firm. Perhaps the other downside is that sometimes you get such a wealth of data, like a data dump, you don't quite know which one to take to the bank. You get all of this information, there are multiple different mutations, and many of them are not driving the cancer, they're what are sometimes called passenger mutations, and sometimes that ability to sift through it is pushed back onto you or your doctor. Sometimes there's an algorithm that will print out, "oh, you're eligible for this trial, or that trial" and there the issue is, what is their metric for saying there's good enough data to say, "yes, you should go travel to go on this clinical trial." Sometimes they have a pretty low bar to get over.

For me the best thing to do is — yes, multiplex testing is a good idea, there are certain companies which are better at this than others, and when you get that information you can't just assume that everything in it is a meaningful result and you really have to sit down, hopefully with an oncologist who understands this, to go through it.

GRACE.expert/GCVL