

ALK Rearrangements: What Are They, and Who Has Them?



TRANSCRIPT & FIGURES

ALK stands for anaplastic lymphoma kinase. This is a gene which is involved in the development when we're a little tiny embryo, and then it gets turned off when we become an adult. As an embryo, it's involved in the development of the gut and the nervous system and a few other things. It's silenced in most adult tissues, but it can be turned on again by what's called a gene rearrangement. What that means is it brings in the front part of another gene which drives the expression of the previously silenced ALK, then it actually functions as something so powerful that it can actually turn a normal cell into a cancer cell.

The absolute frequency is running somewhere between 3% and 7% of lung cancer. The people who tend to have these more often tend to be people with a kind of lung cancer called adenocarcinoma of the lung — that's what it looks like in the microscope, comes from glandular tissue. It tends to be more common in never smokers, it's slightly more common in people who are younger than the average age of people who develop lung cancer, maybe a decade or so.

You also need to understand that all of these factors which are associated with it are not exclusive. So you can be older, you can have a history of smoking, you can have non-adenocarcinoma and still have an ALK rearrangement that may respond very well to an ALK inhibitor. So you have to understand the difference between an enrichment factor, and an absolute — "you should never test", or "always test." For me, I test everybody unless they have a 0% chance, and that's a very small group that has a 0% chance. Essentially I test everybody with non-small cell lung cancer.





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