



## LIQUID BIOPSY

When I was a young surgeon, the only way to find out what kind of presumed cancer a patient had was to secure some actual tissue to give to the pathologist. That was usually done by excising some of the tumor or getting a small core of tissue using a needle placed into the unknown growth. The bigger the biopsy sample the more likely the pathologist would be able to make a diagnosis.

It was as early as the 1860's that tumor cells were known to be present in a patient's blood. Today researchers are identifying the genetic changes in these cells, and this mutational profiling of circulating tumor cells can give clues as to the outcome of therapeutic responses. Tumor cells can also be found in other body fluids such as saliva and urine.

For a patient who is being treated for cancer, the ability to have real time information of a response to a drug is very useful, especially if that information can be obtained from a sample of blood. Such a patient may not need repeated CAT or MRI scans; instead, they could have a blood sample taken as often as needed. What are the downsides of liquid biopsy? It is possible to find what looks like evidence of circulating tumor cells before there is evidence of a cancer that can be identified by standard screening tests. Is this then a false positive or is it truly a very early find and if followed, a cancer will become detectable? Maybe treatment could be started earlier.

Over the last decade the science in this field has been advancing at a rapid pace with many research labs making progress in a myriad of areas (1). Without a PhD in cellular genetics such a rapidly changing field is very difficult to follow. Should you unfortunately develop cancer, your oncologist and other consultants will probably lay out for your options of research trials and the interface of information obtained by liquid biopsy.

If this information interests you, I recommend reading *Liquid Biopsy:* a step closer to transform diagnosis, prognosis ad future of cancer treatments. This article can be found at (https://molecular-cancer.biomedcentral.com/articles/10.1186/s12943-022-01543-7)

(1) https://www.medscape.com/s/viewarticle/blood-test-colorectal-cancer-gets-green-light-2024a1000dwm?ecd=WNL\_clinicdgst\_240821\_MSCPPER-SO\_6766069\_pos1&uac=342333FZ&impID=6766069







