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Team compiles current research on liquid biopsy

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The Association for Molecular Pathology (AMP) today published a special article in *The Journal of Molecular Diagnostics* titled, "Do Circulating Tumor Cells, Exosomes, and Circulating Tumor Nucleic Acids Have Clinical Utility?" The report provides a thorough overview of research to-date on the minimally invasive "liquid biopsy" approaches to cancer diagnostics.

"As a group of molecular diagnostic experts, we were intrigued and excited by the emerging technologies that are likely to find utility in patient management," said co-author Milena Cankovic, PhD, Henry Ford Health System and past AMP Clinical Practice Committee member. "We set out to review and compile the leading research literature as a primary reference source for continued exploration."

More than 200 studies are cited in the paper, providing a substantial digest of research to-date. "Our literature survey concluded that measuring circulating tumor cell burden in metastatic breast and prostate cancer has already crossed a prognostic threshold for clinical utility. That's why the FDA cleared a device for this purpose. It's likely that several other analytes, like circulating tumor DNA, will meet this threshold in the next few years," said first author, Bert Gold, PhD, National Cancer Institute.

In general, the article supports the notion that this type of diagnostic testing in and of itself allows for earlier diagnosis, faster and more targeted treatment, reduced costs, and increased quality of life and even

increased lifespan for the patient. The article also includes recommendations for future trials that will ultimately lead to demonstrating the clinical utility of the referenced minimally invasive approaches. "These areas of cancer molecular diagnostics have been promising for quite a while," said senior author, Christopher D. Gocke, MD, Johns Hopkins University. "We hope that researchers will take this review of circulating tumor nucleic acids and circulating tumor cells as a spur to do the large studies needed to push the technology across the finish line. This would be a win for the field, for our patients, and for the concept of precision medicine."

While many of the studies referenced were smaller and examined only one or a few markers, progress has already been made in testing methods to increase accuracy and validity of samples. The initial results are promising, according to the authors.

More information: *The Journal of Molecular Diagnostics*, jmd.amjpathol.org/article/S1525-1578%2815%2900047-1/abstract

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