

Finding will improve accuracy of cancer diagnosis

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Van Andel Research Institute (VARI) investigators working in collaboration with Cleveland Clinic researchers have determined that two types of kidney tumors previously thought to be different diseases are actually variations of the same disease. This finding will help doctors to more accurately diagnose the disease in patients, and demonstrates the importance of using molecular data to diagnose cancer in general.

Because adult cystic nephroma (CN) and mixed epithelial and stromal tumors (MEST) produce tumors of differing appearance that include different types of cells, traditionally they have been diagnosed as different diseases. The Cleveland Clinic-VARI study, published recently in *The American Journal of Surgical Pathology*, demonstrates through molecular analysis that the two types of [cancer](#) are variations of the same disease.

"Cancer is often diagnosed by the appearance of the [tumor](#) and the types of cells it is made up of," said VARI Distinguished Scientific Investigator Bin Tean Teh, M.D., Ph.D., one of the authors of the study, "but molecular information can allow us to make the determination that two tumors of dissimilar appearance and cell type are, in fact, the same disease. This has important implications for the diagnosis of cancer in general."

Both CN and MEST primarily affect middle-aged females. The primary difference between the two is the appearance of the tumors. Researchers compared tissues of CN tumors and MEST to other kidney tumors and

normal kidney tissue at the molecular level and found several pieces of evidence that indicated that CN and MEST are the same type of [kidney cancer](#).

"The more data we have, the more we can understand cancer; the more we understand, the better equipped we are to fight it," said Teh.

"CN and MEST had long been considered as two different entities. Yet some recent studies also suggested they may be the same entity with varying morphology. Such discrepancy caused confusion and frustration among pathologists and urologists. Our study provided by far the most convincing molecular evidence that the two are genetically very similar and should be considered as the same disease entity," said Cleveland Clinic Anatomic and Clinical Pathologist Ming Zhou, M.D., Ph.D., lead author of the study. "This study is an example of how practicing surgical pathologists could use the molecular tool to improve their diagnostic capability and impact patient care."

Source: Van Andel Research Institute

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