- Cancer awareness

Why biomarker is important in the treatment of lung cancer

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In battling cancer, there is a secret hero that patients seldom see but plays a crucial role in their survival: the pathologist.

"Diagnosis is our major 'hero' work. We select the right patient for the right treatment to improve the chance of treatment success," explained professor Tae Jung Kim, a medical doctor and an associate professor of Pathology at The Catholic University of Korea.

Kim was one of the key speakers at a cancer-treatment symposium held recently at Crowne Plaza Galleria in Quezon City. His talk focused mainly on immunotherapy and the value of biomarker testing for the treatment of lung cancer patients. He also highlighted the significance of government accountability and support in winning the fight against lung cancer, which remains to be the most prevalent cause of cancer-related deaths in the world.

"Identifying the patients' biomarkers is probably the most important thing that pathologists do in their lives. When you know a patient's biomarkers, you also know which treatment is right for that patient and that knowledge strongly contributes to a patient's survival," Professor Kim said.

Biomarkers are crucial measurable indicators of the presence or severity of a disease and its state. Well-known examples of biomarkers include the human chorionic gonadotrophin (hCG) hormone, which usually signals pregnancy, often detected using home pregnancy test kits; and the prostate-specific antigen (PSA), which is used to diagnose prostate cancer.

Biomarker screening is important in the treatment of lung cancer because if a patient is found to have a certain biomarker called PD-L1, a high expression of which directly correlates to response and overall patient survival, that patient becomes an ideal candidate for immunotherapy, a treatment applied through an immune checkpoint blocker called pembrolizumab.

Immunotherapy accomplishes these by doing away with the use of toxic chemicals to fight cancer cells. Instead, it helps the body's own immune system to recognize and combat cancer cells. Its effect then is gentler but more effective and durable as compared to more conventional treatments such as chemotherapy.

"Before 2008, lung cancer was devoid of actual therapy because chemotherapy was not that effective. Then we started targeted therapy and screened for the EGFR (epidermal growth factor receptor) biomarker. Now, clinical studies have found that many patients receiving immunotherapy still survive even after the chemo patients had died," Kim says.

"I am a pathologist, so I have no actual contact with the patients, but I have felt and seen the clinicians' expectations for immunotherapy. I have been involved in biomarker testing for eight to nine years. I have never seen this kind of emotional expectation before," he adds.