SIEMENS Healthineers

Press

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Innovative cancer diagnostics at Braunschweig Municipal Hospital

- **New technology lets physicians identify nature of cancer tumors rapidly and reliably**
- **Braunschweig Municipal Hospital thus able to offer individual and effective treatment strategies for cancer patients, boosting its position as an oncology provider**
- **Technology from Neo New Oncology, a subsidiary of Siemens Healthineers**
- **Diagnostic concept suitable for hospitals in Germany**

As part of a strategic technology partnership with Siemens Healthineers, Braunschweig Municipal Hospital has put new technology in place for molecular diagnostics that will recognize genetic changes in cancer cells. Pathologists can thus accurately identify patients eligible for targeted treatment based on the genetic make-up of their tumors. The method was developed by Neo New Oncology, a subsidiary of Siemens Healthineers. Braunschweig Municipal Hospital, with 38 clinics making it one of the largest hospitals in northern Germany, will thus boost its position as a top oncology provider in the region. This concept serves as a model for regional clinics in Germany.

The technology from Neo enables hospital pathologists to demonstrate many genetic changes relevant to a treatment decision with just a single diagnostic test. Conversely, standard diagnostic procedures usually involve a combination of many different diagnostic procedures to obtain all information about a tumor's genetic make-up. The analysis can be time-consuming as a result, which prevents the treating oncologists from beginning treatment directly. In addition, with the standard procedure the tumor sample often is not enough to enable a full, end-to-end analysis. This creates the risk that patients who could benefit from targeted treatment will fail to be identified. "We are striving to offer cancer patients the best possible treatment in accordance with the latest scientific advances," says hospital CEO Dr. Andreas Goepfert. "By including the Neo technology as part of our routine

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pathology procedures, we can now offer comprehensive molecular tumor analyses as part of our diagnostic services."

Cancer patients are now living longer and longer, and also living better with their disease. One reason is the constant refinement of individual treatment options that modern medicine now makes available. This also includes "targeted medications": In contrast to chemotherapy, which non-selectively targets all dividing cells, these substances act specifically on particular changes in a tumor's genetic information. This not only makes them highly efficient, but also substantially reduces the risk of adverse drug reactions compared to chemotherapy. If tumors lack the relevant genetic changes, however, these targeted medications are virtually ineffective. Targeted treatment must therefore be coordinated with the specific characteristics of the cancer cells in a given patient. For lung cancer, for example, more than a dozen genetic changes are known, which can have different consequences for treatment. Patient treatment is therefore increasingly tailored to the individual tumor, which makes it more effective. For physicians to make the best possible treatment decision, therefore, it is essential that they understand the individual patient's cancer down to molecular level.

The Neo procedure is based on the method of "next generation sequencing." This selects and analyzes relevant parts of the tumor DNA at high resolution. The resulting large volumes of data are processed by software developed by Neo New Oncology using a quality-assured system. Hospital pathologists then evaluate the data. They analyze the changes in the patient's tumor, the medications that can be used against it, and establish whether there are appropriate clinical studies for which the inclusion criteria are met, enabling the patient to benefit from innovative new treatment options.

The results of this evaluation are then discussed by the hospital's Tumor Board. This is where all the relevant medical disciplines at the hospital review all the radiological and molecular diagnostic results and discuss which treatment option would be the best for the patient in question. This ensures that every individual patient benefits from the all of the hospital's medical expertise.

"The ability to link a range of diagnostic methods is increasingly important in modern oncology," comments Dr. Stefan Schaller, head of Siemens Healthineers in Germany. "We

are more frequently seeing imaging procedures and molecular tumor diagnostics being used together, in particular: Both technologies are providing more and more detailed data that, when combined, provide a comprehensive picture of the cancer patient's individual disease, which then lets us offer the best possible treatment." Siemens Healthineers and Braunschweig Municipal Hospital entered into a long-term technology partnership in 2017. For the hospital – one of the largest in northern Germany, with 1,499 beds – Siemens Healthineers is supplying and maintaining all initial and replacement equipment in the areas of imaging, radiotherapy, and nuclear medicine. It also provides a number of innovative services like the Neo technology. The primary goal of this technology partnership is to assure high-quality and cost-effective medical care for patients through diagnostic radiological, surgical, radiotherapy, and molecular diagnostic services.

This press release and a press picture are available at
http://www.healthcare.siemens.com/press-room/press-releases/PR-20190320009shs.html

For further information on Neo New Oncology, please see http://www.newoncology.com.

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