<Informed Consent Form>

Prediction of pathologic complete response (pCR) by preoperative biopsy in breast cancer with complete clinical response (cCR) after neoadjuvant chemotherapy

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Principal investigator:

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1. Title of clinical trial

Prediction of pathologic complete response (pCR) by preoperative biopsy in breast cancer with complete clinical response (cCR) after neoadjuvant chemotherapy

2. Principal Investigator

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3. Background and Purpose

Breast cancer is a disease with a rapidly increasing incidence worldwide. According to the 2014 International Cancer Report, breast cancer has increased by 20% in 2012 compared to 2008, and South Korea is classified as a high incidence region, along with North America and Western Europe. Breast cancer is the second most common cancer in South Korea after thyroid cancer among women, and according to the Central Cancer Registration Report of the Ministry of Health and Welfare, breast cancer accounts for 14.8% of all female cancer in 2011.

Although a large number of patients achieve pathologic complete response (pCR) after receiving chemotherapy and targeted therapy, it is not known whether surgical resection in patients with pCR improves the risk of local recurrence. Past studies that performed only radiotherapy without surgical treatment for breast cancer that was suggested to have a complete clinical response (cCR) showed a relatively high local recurrence rate. Based on the experience of these treatment failures, there is an increasing need to develop an accurate method for predicting pCR before surgery, and a method for accurately screening patient groups requiring local resection despite pathological remission.

On the other hand, the local recurrence rate was high in the group of patients who did not perform surgery because it was judged as cCR, but there was no difference in overall survival rate. Most local recurrences were found during regular follow-up of the patient and it was possible to provide appropriate treatment. The fact that it did not affect distant metastasis and that the recurrence rate was significantly different depending on the presence or absence of suspected lesions on ultrasound examinations in addition to clinical observations, suggests that surgical treatment can be omitted

when pCR can be predicted accurately with alternative methods. It is essential to accurately determine whether or not pCR is achieved after neoadjuvant systemic therapy through the use of advanced breast imaging techniques, and it will provide important clues to determine future treatment methods based on these results.

Due to improvements of chemotherapeutic agents and targeted therapies, and new regimens, pCR has been reported to be as high as 40 to 67%. The number of patients affected by this study in future treatment decisions will continue to increase.

The purpose of this study is to find a way to omit surgical treatment after neoadjuvant chemotherapy by predicting pCR through preoperative MRI and image-guided biopsy (core needle biopsy or vacuum-assisted biopsy).

4. Number of participants and study period

40 patients who is predicted to have pCR after neoadjuvant chemotherapy on imaging (including MRI) and physical examination at Seoul National University Hospital. The study period is from IRB approval until February, 2018, or until 40 participants are enrolled.

5. Procedures and methods

In patients with breast cancer who have undergone neoadjuvant chemotherapy, patients with cCR are selected for radiological examination including breast magnetic resonance imaging. (40 patients) Usually, during chemotherapy, a small clip is inserted to indicate the exact location of the lesion. (This procedure is necessary because it is difficult to locate where the tumor was if a pCR is achieved.)

In patients with a clip or near cCR on imaging, a localization wire is inserted into the area where the clip or residual lesion is on the day of surgery to mark the position. At this time, a core needle biopsy or a vacuum-assisted biopsy is performed for the primary lesion mark by the clip, including the tissue around it. Core needle biopsy and vacuum-assisted biopsy will be performed for 20 participants each, and method of biopsy will be assigned alternatively in the order of enrollment. Both methods have been widely recognized for their effectiveness and stability through various studies, and there are no significant differences in procedure and complications.

Through the analysis of the final pathological findings of the surgically removed breast tissue, we evaluate the accuracy of the imaging and biopsy for predicting pCR after neoadjuvant chemotherapy in breast cancer.

In order to analyze the association with the chemotherapeutic agents or tumor characteristics (hormone receptors, etc.), coded medical information, excluding personal information that can identify you in your medical records (social registration number, hospital number, etc.) will be collected into a database.

6. Expected side effects, risks and discomforts

An additional core needle biopsy or vacuum-assisted biopsy required. However, to minimize patient discomfort, the biopsy is performed in the process of inserting the localization wire which must be performed before surgery. The risk of biopsy is no different from that of a general biopsy performed for diagnosis. Detailed procedures and complications are described in detail in the consent for breast biopsy (core needle biopsy, vacuum-assisted biopsy).

7. Benefits for participants

There is no direct benefit expected for the participants this clinical trial. However, by participating in this study, which is expected to dramatically accelerate cancer research, you are making a very important contribution to the potential to help treat other cancer patients in the future. We cannot guarantee this at the moment, but we expect that the study will proceed quickly and successfully, and if you wish, we may be able to communicate experimental results that may be relevant to your treatment for your reference.

8. Compensation for research participation costs and losses

There will be no additional costs for participating in the research, and no monetary compensation nor transportation fees are provided. The cost of additional biopsy is funded by a research grant, so there is no cost nor loss from participating in the research.

9. Matters concerning voluntary participation and withdrawal of consent

Participation in this study is entirely at your discretion and there will be no penalties for the course of treatment even if you do not agree. You can withdraw your participation or consent at any time during the study.

10. Matters concerning the protection and provision of personal information

Records of personal information that can identify your identity will be kept confidential, and likewise if your research results are published. However, your research records should be kept to the extent that the confidentiality of the subject's identity is protected in order to verify the quality of the procedures and data of the study in accordance with relevant laws and regulations. They will be monitored by the monitoring staff of the clinical study, personnel performing the inspection, and the institutional review board, in accords to the Minister of Health and Welfare and its laws. You can access these materials by agreement signed by you or your representative.

11. Contact Person

Contact information of the person in charge to discuss issues, concerns, and questions related to clinical research

: Professor Wonshik Han (02-2072-1958)

Contact information for questions, concerns, and questions regarding the interests of the study subjects

: Clinical Research Ethics Center (02-2072-2613)

Consent for participation

① I (or the patient) have been given explanation (including annexed paper, if necessary) by a researcher about the purpose, effect, process and expected sequela and complications of this procedure to be performed on me.

② I have understood the expected side effects, risks and discomforts, and the benefits of the study, and have received satisfactory response to my questions.

③ I voluntarily agree to participate in this study.

④ I understand that I may refuse to participate or withdraw from participating in the study at any time without being affected by future treatments, and that this decision will not harm me.

⑤ By signing this manual and consent form, I consent to the researcher's collection and processing of my personal information for medical research purposes to the extent permitted by current laws and regulations.

⑥ I understand that I will receive a copy of my research statement and consent form.

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Participant Signature	Signature	Date (YY/MM/DD)
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Researcher Signature	Signature	Date (YY/MM/DD)
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Legal Guardian Signature	Signature	Date (YY/MM/DD)

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(Relationship with Legal Guardian)

* In the case of research targeting minors, a legal representative item is added to the research that requires consent of two parents or parents.

* For studies that are expected to involve the observer, add the observer item to use.