THE ASSESSMENT OF THE IMPLEMENTATION OF A NEW DEVICE TO REMOVE MAMMARY DUCTS DURING FIBERDUCTOSCOPY IN PATIENTS WITH PATHOLOGICAL NIPPLE DISCHARGE UNDER EXPERIMENTAL CONDITIONS

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Background and aims
At present fiberductoscopy is characterized by the greatest sensitivity and specificity among all the known methods used for imaging the mammary ducts. It is an examination used for a direct visualization of intraductal lesions contrary to other indirect diagnostic methods such as ultrasonography, galactography or Magnetic Resonance Imaging.

The aim of the planned project is to develop a new minimally invasive method which will enable to remove a mammary duct with a pathological lesion visible in fiberductoscopy.

Material and methods
The material consists of nine patients with pathological nipple discharge (PND). Patients with a diagnosed breast cancer were previously qualified for a modified radical mastectomy (Patey's) will be included to the project with a sample of a mammary duct. However, a suggested proceeding will not have an influence on the qualification to a type of a surgical procedure, the course of the operation as well as further post-operative proceeding, including possible oncological treatment. Mastectomy will be performed in accordance with the standard currently in force in the clinic during which a breast gland is removed together with axilla.

In the conditions of an operating theatre immediately after the mastectomy, in a specially designated place a fiberductoscopy of one of mammary ducts will be performed and then a fragment of the mammary duct will be collected. The obtained histopathological material containing a mammary duct, in a separate container, will be forwarded to the Department of Pathology in order to assess the preservation of a natural structure of a mammary duct.

Results
Mean age, weight, height and BMI came to 49.8 (years), 67 (kg), 164 (cm) and 24.6 (kg/m²).

Nine biopsy specimens were pathomorphologically assessed by means of a new device to remove mammary ducts. During macroscopic analysis, a removed section of a nipple as well as a mammary duct with a length of 2-4cm was found. Macroscopically, in the examined mammary ducts an undistorted structure of the ducts was found. The mean time of performing the procedure was 5 minutes.

Conclusions
The development of a new method of removing mammary ducts may contribute to a change of standards of the treatment of patients with pathological nipple discharge. They will be based on a combination of diagnostics with the treatment of the patients and obtained histo-pathological material will allow to establish a further strategy based on a further observation (in case of benign lesions) or expanding a surgical procedure after the diagnosis of breast cancer.

There is a need to continue the research with the use of the device to remove mammary ducts on a higher number of patients.