

Dielectric-technique-assisted breast cancer surgery.

Autorzy

Marek Rząca

Kazimierz Orzechowski

Alicja Wolny

Magdalena Sitarska

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Streszczenie

Introduction. In conservative breast cancer surgery, removing all carcinogenic lesions is a sound basis for achieving therapeutic success. The cleanness of the cutting margin is usually assessed after surgery and any residual cancerous tissue that are found, require further surgery. A simple and cheap assessment method is presented which can be used during surgery, the dielectric cancer probe (DCP), which allows the surgeon to take fast decisions on whether to extend incisions. **Method.** The DCP method consists of measuring and then differentiating between the electrical properties (permeability and conductivity) of healthy and cancerous breast tissue. A polyethylene strip is used to separate the examined tissue from the instrument probe and the procedure is carried out by the operating surgeon. **Results.** This method was found to allow correct identification of cancerous breast tissue based on taking 189 samples from 70 patients using the intraoperative hand probe. The sensitivity and specificity were respectively 87% and 99%. **Conclusions.** The DCP is a high sensitivity method and is totally safe for the patient and can be used intraoperatively. The device is an aid to the surgeon for differentiating between healthy and cancerous breast tissue. Its widespread use should reduce the number of reoperations in the conservative surgical management of breast cancer patients.

Słowa kluczowe

breast cancer, breast conserving surgery, incision margins, dielectric probe, reoperation

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