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## **Tc-99 m-Tilmanocept Lymphoscintigraphy after inconclusive Tc-99 m-Nanocolloid Scan in Breast Cancer**

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### **Ziel/Aim:**

Tc-99 m-tilmanocept is a recently approved small molecule for sentinel lymph node (SLN) detection that specifically binds to dextran-mannose receptors (CD206) on the cell surface of macrophages. The aim of this pilot study was to examine the feasibility of Tc-99 m-tilmanocept for SLN detection after inconclusive initial Tc-99 m-nanocolloid scintigraphy in breast cancer.

### **Methodik/Methods:**

We report on four breast cancer patients (mean age, 69 years) that were referred to our department for SLN detection prior to next-day surgery. Lymphoscintigraphy with  $98 \pm 22$  MBq Tc-99 m-labelled nanocolloid (NanoHSA, Rotop, Dresden, Germany) was performed according to international guidelines. After negative initial lymphoscintigraphy, additional scintigraphy after subcutaneous injection of  $67 \pm 17$  MBq Tc-99 m-tilmanocept (Lymphoseek, Norgine BV, Amsterdam, The Netherlands) was performed.

### **Ergebnisse/Results:**

In three out of four Tc-99 m-nanocolloid-negative patients, subsequent lymphoscintigraphy using Tc-99 m-tilmanocept was able to detect the respective SLN. The subject in whom both methods failed to map lymphatic drainage demonstrated extensive tumor infiltration into the lymphatic system with complete cancerous destruction of axillary LN in histopathology, an observation that might explain the impaired drainage.

### **Schlussfolgerungen/Conclusions:**

Lymphoscintigraphy with Tc-99 m-Tilmanocept might be a useful option in the event of failure of SLN detection by conventional mapping with radiolabelled nanocolloids.