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POSTER

# Unsatisfactory Accuracy of Axillary Ultrasound and Ultrasound-guided Fine Needle Aspiration Cytology of Axillary Lymph Nodes in Breast Cancer Patients

M.W.H. Leenders<sup>1</sup>, M. Broeders<sup>1</sup>, L. Croese<sup>1</sup>, H.L.S. Go<sup>2</sup>, B.L.A.M. Langenhorst<sup>1</sup>, W.H. Schreurs<sup>1</sup>. <sup>1</sup>Medical Center Alkmaar, Surgery, Alkmaar, The Netherlands; <sup>2</sup>Medical Center Alkmaar, Radiology, Alkmaar, The Netherlands

The purpose of our study was to evaluate the accuracy of axillary ultrasound and ultrasound-guided fine needle aspiration cytology (FNAC) in the preoperative diagnosis of axillary metastases. Between 2004 and 2009, 1151 female patients were evaluated and treated in our clinic for histologically proven breast carcinoma. Preoperative axillary ultrasound with subsequent FNAC in case of suspicious lymph nodes was performed in all patients. We analyzed the results of axillary ultrasound and FNAC retrospectively. Pathological node status was used as the reference standard (based on axillary dissection or sentinel node biopsy). 427 of 1151 patients (37.1%) had metastatic disease on final histological analysis. Axillary ultrasound showed suspicious lymph nodes in 328 patients (28.5%). Of these 328 patients, FNAC was performed. FNAC established axillary metastases in 108 patients. Final histological analysis could not find metastases in 4 of these 108 patients. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of axillary ultrasound alone were 43.6% (186/427), 80.4% (582/724), 56.7% (186/328) and 70.7% (582/823), respectively. When combining axillary ultrasound with FNAC of suspicious lymph nodes, sensitivity was 24.4% (104/427), specificity was 99.4% (720/724), PPV was 96.3% (104/108) and NPV was 69.0% (720/1043). Therefore, 104/427 (24.4%) node-positive patients were identified by ultrasound-guided FNAC and spared unnecessary sentinel node biopsy. Unfortunately, the percentage false negative results of ultrasound-guided FNAC (28.1%, 323/1151) was very high.

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# Flat Epithelial Atypia

P. Ghuijs<sup>1</sup>, C. Boetes<sup>2</sup>, F.W. van der Ent<sup>3</sup>, E.M. Heuts<sup>1</sup>, K.B.M.I. Keymeulen<sup>1</sup>, M.N.F. von Meyenfeldt<sup>1</sup>, L.J.A. Strobbe<sup>4</sup>, K.K.B.T. van de Vijver<sup>5</sup>, C.A.P. Wauters<sup>6</sup>, M.L. Smidt<sup>1</sup>. <sup>1</sup>Maastricht Medical University, Surgery, Maastricht, The Netherlands; <sup>2</sup>Maastricht Medical University, Radiology, Maastricht, The Netherlands; <sup>3</sup>Orbis Medisch Centrum, Surgery, Sittard-Geleen, The Netherlands; <sup>4</sup>Canisius-Wilhelmina Ziekenhuis, Surgery, Nijmegen, The Netherlands; <sup>5</sup>Maastricht Medical University, Pathology, Maastricht, The Netherlands; <sup>6</sup>Canisius-Wilhelmina Ziekenhuis, Pathology, Nijmegen, The Netherlands

**Background:** Flat epithelial atypia (FEA) is a presumably neoplastic alteration of terminal duct-lobular units, that is characterized by the replacement of the native luminal epithelium by ductal cells demonstrating low-grade cytologic atypia. The architecture shows stratification of the epithelial cells. FEA is often accompanied by microcalcifications and therefore often discovered in biopsies of mammographically detected microcalcifications. FEA is frequently seen in association with atypical ductal hyperplasia (ADH), low-grade ductal carcinoma in situ (DCIS), lobular neoplasia and invasive tubular carcinomas. There is emerging evidence to suggest that FEA may even represent a precursor of DCIS. Detection of FEA in an histological biopsy should therefore be an indicator signal for possibly present (pre-)malignant lesions. The risk for subsequent breast carcinoma remains to be defined. The aim of this study is therefore to inventories the consequences of solitary FEA in histological biopsies in three Dutch teaching hospitals (university and peripheral).

**Materials and Methods:** Data of all FEA patient of this retrospective multicentre study were collected in a database. Patient files were detected by searching the local pathology databases for 'FEA', 'Flat Epithelial Atypia', and Dutch equivalents. Results were manually screened, only including solitary FEA.

Patient files were viewed then for information on presentation, mammography and ultrasound and chosen therapy (surgery vs follow-up). In case of excision, the definitive pathology was added.

**Results:** The search resulted in 161 FEA cases, of which 66 solitary FEA biopsies. The management of these patients consisted of follow-up for 41 patients (62%) and 25 (38%) underwent a lumpectomy (23) and mastectomy (2). No incidents occurred in the follow-up group so far. The definitive pathology of the lumpectomy/mastectomy showed no abnormalities or solitary FEA in both 6 patients; other findings were ADH in 3, LCIS in 2 and DCIS in 5 patients. Invasive lobular disease (ILC) was only found in one patient. Reason for choosing mastectomy were contralateral malignant disease; the definitive pathology showed no abnormalities.

**Conclusions:** No consistent management exists concerning solitary FEA. Lack of this study is the retrospective gathering of data, making it difficult to detect the reason for the chosen management. DCIS or ILC was discovered in 24% of all surgical patients. Therefore, FEA can be seen as a red flag, indicating the possible presence of a more malignant lesion. Additional research is warranted, preferably as a multicentre randomized controlled trial comparing surgery vs follow-up.

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# Lymph Node Surgery in Breast Cancer – Age-related Inequality in Surgical Procedure Use

C. Cluze<sup>1</sup>, M. Meresse<sup>1</sup>, M.K. BenDiane<sup>1</sup>, D. Rey<sup>1</sup>, R. Giorgi<sup>2</sup>. <sup>1</sup>Ours Paca – Inserm Umr912 – Aix-Marseille Université, Marseille, France; <sup>2</sup>Laboratoire d'Enseignement et de Recherche sur le Traitement de l'Information Médicale – Aix-Marseille Université – Assistance publique hôpitaux de Marseille Service de Santé Publique et d'Information Médicale, Marseille, France

**Background:** Sentinel lymph node dissection (SLND) induces lower morbidity and gives a better quality of life than axillary lymph node dissection (ALND) in breast cancer (BC) women. Furthermore, SLND is the recommended method for the axillary nodal staging of BC. However, for some patients ALND is performed without previous SLND. The aim of the study was to identify factors associated with ALND use without initial SLND in early stage BC women.

**Materials and Methods:** This study was performed in the cohort ELIPPSE65, a French representative cohort of women with non-metastatic BC, aged 65–80 years, and diagnosed between 2007 and 2010. The study sample was all BC women with an indication of SLND i.e. with T1 tumour without palpable axillary node(s) and who had not received neo-adjuvant chemotherapy. Characteristics of women who had SLND were compared with those who had immediately ALND without initial SLND.

**Results:** A total of 363 women had an indication of SLND. Among them, 6 had no axillary surgery. The axillary surgical procedure used was unknown for 6 women. Accordingly, 351 women were analyzed. ALND was performed without previous SLND in 21% of cases (n = 75). Among these women, 85% had no lymph node involvement.

After taking into account the increase of the use of SLND over time, ALND without previous SLND was more frequently performed in women older than 75 years (aOR = 2.0 [1.1–3.8]) and among those who had no child (aOR = 2.4 [1.1–5.4]). Co-morbidities, physical and psychological disabilities, living place or place of treatment did not explain these inequalities.

**Conclusions:** Although SLND is a widespread surgical practice, many women still have unnecessary ALND, especially oldest women and those with poor family support. This is particularly detrimental for oldest women whose quality of life and autonomy can be strongly impaired by the lymphoedema following ALND and its long term complications.

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# Stress and Autoaggression in Patients With Breast Cancer (BC) During the Surgical Treatment

O. Krechyk<sup>1</sup>, I. Schepotin<sup>1</sup>, O. Zotov<sup>1</sup>, J. Zaieliev<sup>1</sup>. <sup>1</sup>National O.O. Bohomolets Medical University, Oncology, Kiev, Ukraine

**Background:** Providing of successful treatment of cancer patients and their optimal quality of life requires studying of disease's psychological component and its correction. Lack of experience in providing psychological care in home oncological practice isn't compensated by taking the experience of foreign oncopsychologists and creates a necessity of investigations and elaboration proper methods of psychological support for patients with BC.

**Objective:** The aim of the study is to investigate the degree of the stress and autoaggression in patients with BC under radical surgery, its dependence of the extent of surgical intervention.

**Materials and Methods:** 75 women aged 25–65 were examined in 2010–2011 immediately after surgery. They were divided into 3 groups: I – patients with BC who underwent breast-preserving operation, II – patients with BC who underwent radical mastectomy, III – patients with benign breast tumours who underwent sectoral resection. We used Spilberger-Hanin diagnostic scale of reactive and personal anxiety, Bass-Darka diagnostic scale of indexes and forms of aggression, clinical examination and interview.

**Results:** From all examined patients 40 (53.4%) had signs of acute stress reaction, 51 (68%) had signs of adaptation disorder. The risk group of stress disorder consists of 31 patients with BC.

**Conclusions:** The degree of acute stress reaction is higher in patients with BC and doesn't depend on the extent of surgical intervention.

Psychogenic reaction	Incidence		
	Group I (n = 25)	Group II (n = 30)	Group III (n = 20)
Situational anxiety	53.5±6.3	54.3±6.7	47.2±5.8*
Personal anxiety	54.0±5.0	56.2±9.5	47.5±10.8*
Hostility	52.1±23.2	53.8±13.5	45.2±19.8*
Autoaggression	73.8±17	73.2±16.1	63.5±15.3*

\*p < 0.05 versus groups I and II.

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### Complications of Immediate Breast Reconstruction After Skin Sparing Mastectomy Do Not Cause Delay of Onset of Adjuvant Chemo- or Radiation Therapy

O. van Waardhuizen<sup>1</sup>, M. Martens<sup>1</sup>, D. van Mierlo<sup>1</sup>, R. Schipper<sup>1</sup>, M. Lobbes<sup>2</sup>, S. Tuinder<sup>3</sup>, E. Heuts<sup>1</sup>, M. Smidt<sup>1</sup>. <sup>1</sup>Maastricht University Medical Centre, Surgery, Maastricht, The Netherlands; <sup>2</sup>Maastricht University Medical Centre, Radiology, Maastricht, The Netherlands; <sup>3</sup>Maastricht University Medical Centre, Plastic Surgery, Maastricht, The Netherlands

**Background:** The incidence of all types of immediate breast reconstruction (IBR) after a breast cancer operation is rising, offering patients enormous advantages in terms of quality of life. This study only concerns IBR after skin-sparing mastectomy (SSM). Safety of this procedure is a critical issue and can be measured in terms of local recurrence. Published studies show no rise though compared to the standard mastectomy. Another consequence could be the higher risk for complications and therefore the possible delay in the start of any adjuvant therapy. The aim of this study was to evaluate the incidence of complications after SSM with IBR in patients treated for invasive breast cancer or ductal carcinoma in situ (DCIS), whom received adjuvant chemo- or radiation therapy in a single dedicated institute and to assess whether they affect the interval between surgery and adjuvant therapy.

**Methods:** Data of all SSM with IBR patients were both prospectively and retrospectively collected in a database between 2004 and 2011. The database consists of 251 SSM with IBR. Only patients treated with adjuvant chemotherapy and/or radiation therapy were included (n = 60); 95% (n = 57) with invasive carcinoma and 5% (n = 3) with DCIS. Further patients characteristics are collected in Table 1. Almost all SSM and IBR were performed by a dedicated team of oncologic and plastic surgeons. Descriptive statistics and unpaired t-tests were conducted.

Table 1: Patient and tumour characteristics of 60 patients who received SSM with IBR and adjuvant therapy

	Without complications	With complications	p-value
Patients, n	44	16	
Mean age, y (range)	48.4 (25–66)	48.4 (29–67)	0.991
BMI (kg/m <sup>2</sup> )	23.9 (16–30)	24.0 (19–33)	0.735
Smoking (%)	27.3	12.5	
Mean tumour size, mm (range)	27.2 (0–200)	25.2 (0–70)	
Primary tumour (%)			
T0	3 (7)	1 (6.3)	
Tis	3 (7)	0	
T1	17 (39.5)	6 (37.5)	
T2	15 (34.9)	7 (43.8)	
T3	4 (9.3)	2 (12.5)	
T4	1 (2.3)	0	
Nodal status			
N–	24 (55.8)	8 (50)	
N+	19 (44.2)	8 (50)	
Neo-adjuvant chemotherapy	9	1	
Number of breast reconstructions, n	54	22	
Unilateral	32	10	
Bilateral	11	6	
Complications, n (%)			
Flap necrosis		4 (25)	
Wound infection		10 (62.5)	
Haemorrhage		6 (37.5)	

**Results:** Some form of flap reconstruction was performed in 19 breast of the uncomplicated group and in 7 breast of the group with complications. A tissue expander or direct prosthesis was placed in 35 and 15 breasts, respectively. The number of patients with complications was 16 (26.7%). In 9 patients, the complications of surgery occurred before the start of adjuvant therapy; in 7 during adjuvant therapy. In none of these patients, adjuvant therapy was paused due to complications. The mean number of days between the IBR and the start of adjuvant chemo- or radiation therapy was 28.6 in the group with complications. For the uncomplicated group, this period was 32.6 days. However, this is not significant (p = 0.46).

**Conclusions:** Complications associated with SSM with IBR do not delay the start of indicated adjuvant chemo- or radiation therapy.

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### Immediate Breast Reconstruction (IBR) After Skin-sparing Mastectomy (SSM) Does Not Increase the Risk of Loco Regional Recurrence or Distant Metastases

D. van Mierlo<sup>1</sup>, R. Schipper<sup>1</sup>, O. van Waardhuizen<sup>1</sup>, M. Martens<sup>1</sup>, W. Peeters<sup>2</sup>, C. Boetes<sup>3</sup>, E. Heuts<sup>1</sup>, M. Smidt<sup>1</sup>. <sup>1</sup>Maastricht University Medical Centre, Surgery, Maastricht, The Netherlands; <sup>2</sup>Maastricht University Medical Centre, Plastic Surgery, Maastricht, The Netherlands; <sup>3</sup>Maastricht University Medical Centre, Radiology, Maastricht, The Netherlands

**Background:** An immediate breast reconstruction (IBR) after skin-sparing mastectomy (SSM) offers breast cancer patients enormous advantages in terms of quality of life. Safety could be measured as the amount of retained breast tissue in the skin flap, but this is impossible to measure, though definitely present. The clinical consequence of retained breast tissue is loco-regional recurrence (LRR) and distant metastases. Most published studies concerning this issue show low patient numbers and/or a short follow-up period. An accepted recurrence rate is 0.5–1% per year. The aim of this study was to evaluate the incidence of local, regional and distant recurrence after SSM with IBR in patients for invasive breast cancer (IBC), DCIS or prophylactic indication in a single dedicated institute.

**Methods:** Data of all SSM with IBR patients were both pro- and retrospectively collected in a database. 182 patients underwent a total of 249 SSM with IBR for invasive breast cancer (n = 112), DCIS (n = 42) or prophylactic risk reduction (n = 95) between 2004 and 2011. Patient and tumour characteristics concerning DCIS and IBC are collected in Table 1. The median age of the patient undergoing a SSM with IBR for prophylactic indication was 45.3. Only in two of these patients invasive cancer was detected in definitive pathology.

Table 1

	DCIS	IBC	Recurrence
Median age, y (range)	50.8 (32–69)	48.69 (24–69)	42 (36–48)
Tumour size, mm (range)	40 (4.5–120)	16.5 (2–200)	23 (13–80)
Primary tumour, N (%)			
T0	3 (7.9)	9 (8.0)	0
Tis	35 (92.1)	2 (1.8)	0
T1	0	58 (51.8)	2 (66.7)
T2	0	34 (30.4)	1 (33.3)
T3	0	8 (7.1)	0
T4	0	1 (0.9)	0
Grade			
1	6	19	0
2	8	39	3
3	17	42	0
Unknown	11	13	0
Location			
Multicentric/focal	34	105	3
Unifocal	4	7	0
Unknown	4	0	0
Nodal status			
Negative	40	64	2
ITC+	2	8	0
Positive	0	40	1
Estrogen receptor status			
+		80	3
–		32	0
Therapy			
Neo-adj. chemotherapy		12	
Adjuvant chemotherapy		59	
Hormonal therapy		52	
Radiation therapy	4	25	

All SSM and IBR were performed by dedicated oncologic and plastic surgeons. A total of 263 reconstruction procedures were performed including deep inferior epigastric perforators (DIEP n = 85), transverse rectus abdominis muscle (TRAM n = 18), superior gluteal artery perforator (SGAP n = 1), tissue expander (TE n = 119), immediate prosthesis (IP n = 32), latissimus dorsi (LD n = 7), transverse myocutaneous gracilis (TMG n = 1) and combinations of the previously mentioned.

**Results:** The mean follow-up was 28 (1–82) months. Local recurrence (LR) occurred in 3 patients (1.9%, non-significant), and was detected after a period of 5, 16 and 21 months. All of these patients were initially treated