Latissimus dorsi reconstruction with a kyte technique: Patient related outcome on functional morbidity and anterior versus dorsal approach comparison

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Background
Arm and shoulder dysfunction after Latissimus dorsi (LD) based reconstructions remains a point of concern. LD muscle transfer is a widely accepted choice for breast volume replacing technique after breast conserving technique and for breast reconstruction with an implant or as an autologous reconstruction. Data regarding late functional sequelae remaining more than one year after surgery is lacking, as well as there is little evidence published comparing anterior miniflap harvest technique versus dorsal skin island flap harvest technique regarding scapula disability and arm morbidity. We aim at evaluating functional late sequelae with the kLD harvest technique and comparing anterior versus dorsal approach.

Material and Methods
Questionnaires were sent to 45 patients operated by the same oncoplastic team (Level III Oncoplastic Training Unit – EJSO 33 (2007) S1-S23) between April 2012 and June 2014. LD flap was harvested using the kyte technique (kLD), a perforator flap style pedicle dissection, from the muscle, until the external limit of the breast to be reconstructed, leaving no unnecessary bulging under the axilla, with the tendon and nerve sectioned (Pinto D et al. The Kyte LD flap in breast reconstruction: a technique modification attempt to reduce axillary bulging – Poster. European Breast Cancer Conference 9, Glasgow, March 19-21, 2014). Functional impairment was assessed using the self-administered DASH outcome measure questionnaire. Disability scoring from 1 to 100%, with 1-25% being regarded as mild dysfunction, 26-50% as moderate dysfunction, 51-75% as severe dysfunction, and 76-100% as total dysfunction. Statistical analysis was performed using the SPSS v22 and the Chi-square test (statistical significance p ≤ 0.005)

Results
Forty-five patients completely answered the disability/symptom section of the DASH questionnaire. Twelve patients were operated with a dorsal skin paddle and 33 with anterior miniflap harvesting technique. Medium DASH score was 18 points, with minimum value 0 and maximum 61.2, with a standard deviation of 14.3 points. Eighty percent of patients have score under 25 points, 13.3% between 25-50 points and 6.7% over 50 points. Ninety-four percent of the patients with an anterior miniflap technique had DASH scores under 50%, comparing with 91.7% of patients with a dorsal approach. No statistically relevant difference has been observed when comparing both harvesting techniques.

Conclusion
LD muscle transfer with a kLD technique is well tolerated by the majority of the patients, but can result in functional disability, with symptoms remaining more than 1 year after
surgery, with a moderate to severe disfunction in 20% of the patients. Comparing functional late sequelae from anterior partial miniflap harvest technique and dorsal approach did not showed any statistically significant difference.