

## 2019 WSLs Poster 008

### Line production system for multiple Lymphaticovenular Anastomoses.

Shuhei Yoshida

[syuheiyoshida44@gmail.com](mailto:syuheiyoshida44@gmail.com)

**Background:** A drawback of multiple lymphaticovenular anastomoses (LVAs) is the need for at least two microsurgeons and the same number of microscopes. In practice, many hospitals find it difficult to access such resources. We have developed a novel line production system (LPS) to address this problem. We assessed whether or not the LPS is better than the conventional dual microscope (DM) system when performing multiple LVAs.

**Methods:** An LPS group, in which a novice microsurgeon used loupes to dissect lymphatics while an expert microsurgeon used a microscope to perform the LVAs, and a DM (control) group in which the surgeons used microscopes to perform the LVAs. We recorded the lymphatic detection rate through the loupes and the diameter of the detected lymphatics. We also investigated the impact of using the LPS by comparing the number and quality of LVAs and improvement in lymphedema between the study groups.

**Results:** The mean lymphatic detection rate was  $81\% \pm 15.60\%$  and the mean size of lymphatics was  $0.44 \pm 0.12$  mm in the LPS. The number of LVAs/hr. in LPS was significantly higher than DM ( $2.15 \pm 0.20$  vs  $1.38 \pm 0.17$ ;  $p < 0.01$ ). The number of successful LVAs/hr. in LPS was significantly higher than in the DM ( $2.08 \pm 0.22$  vs  $0.84 \pm 0.14$ ;  $P < 0.01$ ). Mean rate of improvement in LEL index was significantly higher than in the DM ( $9.36 \pm 1.85$  vs  $6.93 \pm 1.73$ ;  $P < 0.01$ ).

**Discussion:** The number and quality of the LVAs increases using the LPS, which leads to further improvement in lymphedema with fewer microscopes and microsurgeons and a shorter operating time.