



## Retrospective study on clinical indications and technical aspects of micro-focused ultrasound on a large cohort of patients.

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### Abstract:

**Introduction:** Recent studies have shown autologous collagen regeneration, efficacy on face and neck lifting and safety of transcutaneous micro-focused ultrasound procedures (1-8). Despite this, guidelines on clinical indications and technical aspects such as the proper number of energy spots to be delivered to the patients are lacking. For this reason, we have conducted an independent retrospective study on these issues.

**Materials and methods:** We reviewed 925 women with a mean age of 51,3 years (range 33 – 64 years), treated at our cosmetic medical center in Milan (Italy), which presented soft to severe skin ptosis of the face according to APSS (Araco Ptosis Scale System), received an average of 1.060 spots of micro-focused ultrasound as sole treatment. The first statistical analysis was conducted on the differences in the number of spots delivered in different homogeneous groups. The first group of 56 patients received an average of 486 lines; the second group of 73 patients received an average of 1.126 lines and the third group of 66 patients received an average of 1460 lines. The second analysis was conducted on the differences in clinical indication according to APSS in three different homogeneous groups. The first group of 175 patients was on APSS 2; the second group of 193 patients on APSS 3 and the third group of 184 patients on APSS 3. Standardised digital photographs and 3d reconstructions with VectraH1, before and 6 months after treatment were assessed by two blinded independent doctors (F.A.; M.A.) which scored photographs from 1 to 20 according to the SASS (Surgeon Assessment Scoring System). The reduction of at least 4 set points was considered a significant difference. A patient satisfaction questionnaire (PSQ) were given to patients that scored their results from 0 to 10. The reduction of at least 2 set points was considered a significant difference.

**Result:** All patients completed the follow-up after 6



months and no major side effects were reported. Result on energy lines delivered: Only groups 2 and 3 reached the statistical significant difference according to SASS and PSQ. Result on face ptosis groups: Only groups 1 and 2 reached the statistical significant difference according to SASS and PSQ.

**Conclusion:** Our retrospective study showed that in order to stimulate collagen regeneration and tissue contraction (lifting effect), it's necessary to deliver a significant number of energy micro-focused ultrasound lines and choose the right patient indication

### Biography:

Prof. Antonino Araco is a Plastic and Aesthetic Surgeon. He is the medical and scientific director at Jenevi Medical, leading Italian company of aesthetic and cosmetic surgery. He is contracted professor at University Tor Vergata of Rome and contracted professor at University of Camerino. He is a scientific researcher and author of more than 60 papers published in international indexed journals in the field of plastic surgery and regenerative medicine. He is an international speaker and gives lectures in the field of plastic surgery, regenerative medicine and lasers.

### Publication of speakers:

1. Sack DA, Sack RB, Nair GB, Siddique Ak. *Cholera lancet* 2004; 363(9404):233-233
2. Chan NP, Shek SY, Yu CS, Ho SG, et al. Safety study of transcutaneous focused ultrasound for non-invasive skin tightening in Asians. *Lasers Surg Med* 2011; 43:366-75

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