Clinical Reviews from Doctors

Date: July 4, 2012

1. SMAS vs Sub Q

"Face lift by HIFU seems not only result from tightening the SMAS layer but result from subQ fat reduction." (By Doctor Kim, Jong Gu from Oracle Clinic)

"Reason for doublo having less possibilities of side effect than Ulthera is because of its precise and wider dot size. Ulthera dot is vertically larger and sharper which cause sharp pain when doublo isn’t. Despite this fact, doublo shows better effect because it causes larger thermal coagulative zone on the subQ layer and SMAS surrounding area." (By Doctor Choi, Wonwoo from Well’s Clinic)

2. doublo Vs Ulthera

“In the term of ‘FACE LIFT’, I have experienced much better results with doublo than Ulthera.”
(By Doctor Kim, Jong Gu from Oracle Clinic)

“It is impossible to adjust higher energy with Ulthera due to its automatic lock on the energy setting. This point must be rectified.” (By Doctor Kim, Jong Gu from Oracle Clinic)

3. Nerve

“The most frequently occurred nerve damage by HIFU energy would be ‘facial nerve mandibular branch’. The reason is because the ultrasound hits the bone and is reflected to the other direction or creates secondary wave. Therefore, it requires attention on the facial nerve of bony prominence area on the mandible.” (By Park, Jae-woo from Dr. Park Plastic Surgery)
Reference: Picture of anatomy that is related to facial motor nerve
"Important thing to remember during HIFU treatment is to consider the direction of relaxed skin tension line and wound healing by secondary intension." (By Dr. Kim, Jie-Hoon from Dr Kim’s Skin&Laser Clinic).

4. Treatment of D4 and M7

When combining D4 and M7, ‘the ratio of D4:M7 on each treatment area’ is as follows.

(1) low face
This area is mostly important for face lifting. Since SMAS is the important factor for lifting and as this area needs to be tightened, D4 should be the main cartridge to use. For the low face lifting, the optimum ratio of D4:M7 would be 6:4 or 7:3. For the power, emit relatively strong energy of 1.3~1.5J. But simply lower the power on the bony prominence like mandibular rim to avoid thermal injury.

(2) mid face
Reason for nasolabial folds is because the structures of mid face have laxity and becomes downwards. In this case, to do skin tightening on mid face, it is important to tighten the deep dermis structures. So it is optimum to use D4:M7 ratio of 5:5. Also for Mid face, use the relatively strong power, but pay attention on the bony prominence like zygoma. It might cause bruise around the eyes. Therefore, it is recommended not to use D4 and D7 but to use only M7 on the forehead and eye surroundings.

(3) upper face
Even though HIFU device got approved for eyebrow lifting, it requires a lot of attention during this area treatment. For the forehead, there are risks of side effect so the energy should be lowered or use the
only M7 cartridge. 
D4:M7 ratio would be 3:7 to make fewer side effects. Since the forehead nearly does not have subQ fat, D4 cartridge depth would probably target not SMAS layer but muscle or periosteum. And so there are some cases with patients having headaches after treatment.

(4) Neck

As the SubQ fat will get less on the neck and SMAS will be combined with platysma muscle, it is required to lower the energy to avoid any side effects. Comparing to face, neck has 1) less dermal capillary vessel blood flow rate which causes difficulty in thermal diffusion and 2) thin subQ layer causing high possibilities of side effect.
For the neck, recommended ratio of D4:M7 is 4:6 so mainly use M7 cartridge. Power should be lowered and especially use lower than 1.2J with D4 cartridge.

5. Spacing

Spacing is important. 
In the past, D4-1.7mm/M7-1.4mm was the fixed spacing setting and I have been increasing only the energy. I always thought Spacing is an important factor but as I am afraid, I used to make narrow for one or two levels only. Then as Dr. Kim, HS saw Ulthera having up to 1.2mm spacing, he considered to narrow doublo spacing to 1.4-1.5mm as well. The PT Slides from Ulthera shows 1.5mm but some actual users use 1.2mm. In this case, it would mean 1.5mm is the safe & standard spacing for Ulthera recommendation and 1.7mm for doublo, meaning these two devices have different energy concentration. And I considered the possibilities of damaging tendency on important structures due to narrow spacing.
So recently, I have been narrowing the spacing to 1.3mm with doublo and done several cases. Comparing to the last 1.7mm spacing treatment, I could clearly see strong effect. M7 used 1.1mm spacing. From my view, as spacing becomes narrow, the dots of thermal injuries become connected as a long treatment line, and in this case vector direction treatment is more effective. But, this might also affect risks of damaging lower structures. Severe pain after treatment or swallow symptom might occur but this way can show definitely better effect. Of course, patient with more laxity will have difference in results.

6. Ulthera

It is a known fact that Ulthera helps to improve about 50-70% of the wrinkles and skin laxity on the face and neck. But it is difficult to treat skin laxity completely using only this Ulthera treatment. To expect better results, it requires combination therapy. To maximize the HIFU treatment effect, I think it is too dangerous to narrow the spacing to 1.1mm~1.3mm or increase the power energy to 1.7J. Too narrow spacing or too strong energy will cause not only the burns but will cause nerve damage leading peripheral type of facial palsy. I believe it is safe to use treatment that causes no side effect if Ulthera or HIFU can expect more than 90% of the treatment effect. Here is my Ulthera treatment procedure and method.

1) Both Cheek: 4MHz 4.5mm probe from ears - 55lines:1.2J 
2) Neck area: 4MHz 4.5mm probe - 50 lines:1.2J 
3) Forehead area: 7MHz 3.0mm probe - 20 lines: 0.45J
4) lateral orbital areas: 7MHz 3.0mm probe - 10 lines: 0.45J
5) below infraorbital areas: 7MHz 3.0mm probe - 9 lines: 0.45J
6) lower face area: 7MHz 3.0mm probe - 40 lines: 0.45J
7) Neck area: 7MHz 3.0mm probe - 50 lines: 0.45J (Neck area proceed dual layer therapy)

If the hospital has Thermage, Polaris, Nd-YAG laser;
1) UL + thermage + Polaris
2) UL + thermage + polaris + DLT (If you proceed this kind of combination therapy, you will expect good result for wrinkles and skin laxity.)