

All findings on medical high-frequency ULTRAcel, a combination of high frequency and HIFU

Written by In Seong-il (director of Clear Charm Skin Clinic)



Director In Seong-il of the Clear Charm Skin Clinic predicts that RF will become the mainstream soon. In fact, new RF products have been released unceasingly in the domestic market recently. Compared to the release of various other products, however, studies on the theoretical bases or products of RF are quite insufficient. This is in contrast to the active studies on lasers. Therefore, Director In introduces user's comments on RF products released in South Korea. In particular, he introduces more vivid clinical user comments and matters that must be improved through interviews with product developers and persons in charge.

The fever for needle RF in the domestic cosmetic medical device market that began several years ago seems to have persisted until recently. As nobody can forget their first meeting, this writer also cannot forget INTRAcel, which I saw for the first time among needle RF devices. Because I am still using it, I believe the meeting was successful despite it being the first meeting.

ULTRAcel, which was recently released by Jeisys, the company that made INTRAcel, is attracting attention from the public again as it was released in the form of a device that combined needle RF, HIFU, and the high-frequency device INTRAgen. Although this writer had no opportunity to upgrade INTRAcel into ULTRAcel because our clinic already has five other needle RF devices in addition to INTRAcel, two HIFU devices, and five high-frequency devices for elasticity procedures, this writer always had an interest in ULTRAcel.

First, ULTRAcel was designed to have a slimmer shape compared to INTRAcel. The height and size were changed to be much more compact, but its functions can be said to have been improved dramatically as three handpieces were installed. When only the needle RF device is compared, no particular difference in use is found. However, because it is said that the tips are not compatible with existing tips, users considering an upgrade may want to refer to this.

The INTRAgen high-frequency device is a newly added device in a monopolar form that emits high-frequency waves on the surface, as with Thermage. This is said to be used for the improvement of the elasticity of the epidermis and upper dermis and is thought to be capable of showing more synergy effects if it is used in combination with needle RF. Unlike other products, HIFU has vertically designed handpieces. This seems to be more convenient for securing the visual field and handling during procedures. This device was tested using a phantom provided by the manufacturer and it could be identified that the thermocoagulation points (TCPs) were formed accurately at uniform depths. This device is thought to be usable without any problem in actual application.

The manufacturer Jeisys is a leading company in the area of high-frequency devices, including INTRAcel, and is known to make considerable investments in research and development. This writer expects that this company will do good job in other areas too, including HIFU.

Talk with Company

In Seong-il: ULTRAcel is a device that combines high frequency and HIFU. What are the advantages obtained through this combination?

ULTRAcel: The skin consists of many layers, and improving the entire skin through a procedure in one layer has been always difficult. ULTRAcel is a product that combines high frequency and HIFU to implement procedures on many layers of the skin with various products and methods in order to maximize the effects. RF products that provide skin elasticity by remodeling collagen using high frequency and HIFU that selectively apply thermal stimulation to deep skin layers, which cannot be done using only high frequency, have their own specialized advantages. ULTRAcel integrates these respective special advantages of RF and HIFU into one main body so that the operator can use mixtures of treatment methods without replacing devices during procedures.

ULTRAcel has three functions. There is an RF handpiece for INTRAgen (GFR) for the epidermis and upper dermis, an RF handpiece for INTRAcel (FRM) that makes coagulation columns in the dermis, and an HIFU handpiece targeting fat and SMAS. Using these three handpieces, diverse combinations of procedures can be

made according to skin age. For instance, INTRAGEN is used for high-frequency procedures that provide uniform heating to the entire face, beneath the chin, and the entire neck. In addition, although it may be different by patient, regions considered to be in need of stronger coagulation columns in the dermis layer such as the periorbital region can be treated with INTRAcEL, and the region outside of the nasolabial fold and the submentum can be treated with HIFU. The numbers of procedure shots by handpiece can be reduced and effective procedures that fit the regions being treated can be implemented without replacing devices between different procedures. For this reason, the integrated device ULTRAcEL was well received for its excellent hospital space usability in the ULTRAcEL and INTRAcEL International Forum held in Manchester, UK.



In Seong-il: What are the differences in the needle RF installed in ULTRAcEL compared to INTRAcEL?

ULTRAcEL: To tell you function-related details first, the functions of INTRAcEL and the functions in the FRM mode in ULTRAcEL are basically the same.

As is known well, in the case of high-frequency devices, penetration depths and heat diffusion vary with skin resistance, and thus sufficient effects can be obtained only when the high frequency is adjusted well to fit the resistance values that vary among regio

ns of faces even in the skin of the same person. The function to automatically measure resistance values during procedures to adjust energy to be constant is installed identically in both devices, although INTRAcEL uses a 1 MHz frequency and ULTRAcEL uses a 6 MHz frequency. Whether this frequency difference is good or bad cannot be said, because customers in some 30 countries prefer one of the frequencies and other customers prefer the other frequency, but 6 MHz monopolar devices are evaluated as having better effects.

In Seong-il: Compared to other HIFU devices released in South Korea thus far, what are the characteristics of the HIFU installed in ULTRAcEL?

ULTRAcEL: If only the HIFU is compared, no difference may be felt from the standpoint of customers. However, large amounts of investments have been made in ULTRAcEL to sufficiently reflect the basic performance necessary for HIFU procedures. Many studies have been conducted on the accurate depth and sufficient energy to make denatured zones in the fibrous septa through micro-pig experiments, and several studies were conducted to check biopsies. The results of these studies were well-organized and reflected in the quality standards for the ULTRAcEL HIFU.

In Seong-il: When compared to Ulthera, the HIFU products produced in South Korea are thought to still require some improvement. Do you plan to upgrade HIFU devices later?

ULTRAcEL: Products are upgraded in various areas. Rather than upgrade, the term “next generation” is thought to be more suitable. Although concrete contents cannot be told to you because they are confidential, the upgrade direction should be toward enabling operators to accurately select the desired energy and apply it to the desired target.

In Seong-il: Are there points in the HIFU manufacturing technology held by Jeisys that are different from that of other companies?

ULTRAcEL: Because one should be very careful in comparing HIFU manufacturing technology, I will tell you about Jeisys only. Jeisys has continuously made efforts and conducted studies for the standardization of HIFU by cartridge. As with high frequency that varies in effect according to human body resistance, HIFU is also affected by diverse variables for the standardization of effects. Since the effects cannot be standardized without the standardization of these variables, an image analysis device for ultrasonic quality inspection was developed and Jeisys is always making efforts for standardization by controlling ultrasonic focusing-related items to measurable values through HIFU Phantom inspection and analyzing devices.

(Continued in the next edition)