The International Aesthetic Dermatology Congress of **ESCAD**

(European Society for Cosmetic and Aesthetic Dermatology)

DUBAÏ, April 13, 2018

Pierre BOUHANNA M.D. (Paris)

Controversial issues on alopecia hair transplant treatments

Over the past 30 years, the cosmetic goal for hair transplantation was the ability to consistently create natural appearing transplanted hair for men. The procedure is performed with local anesthesia with a low rate of medical and surgical complications. There has been a continual evolution in technique with the goal of an ever more efficient, safer, and even higher level of patient satisfaction. This presentation will review several of the most salient debates in the field of hair transplantation.

The consult is fundamental to establish candidate selection. Patient with increased donor density, thick-caliber hair follicles, and areas of clear thinning of frontal scalp or crown alopecia are ideal candidates for all the procedures. Those with limited donor density and fine thin-caliber hair follicles will have a good cosmetic result from only one procedure the FUT-FUL technique. It is essential that patients understand the ongoing nature of male pattern hair loss and how that will impact the perceived density and cosmetic appearance of a transplant. Transplanting the frontal area, the scalp is considered the cosmetically safe zone where ongoing hair loss will impact the perceived density of a transplant but not the natural appearance of the procedure. Transplanting the vertex of the scalp does have more long-term cosmetic risk with an unnatural "doughnut" appearance of hair. Successful medical therapy to stabilize male-pattern hair loss should be discussed with all patients with existing pigmented terminal hair considering a hair transplant to create optimal long-term density. Age is not a determining factor in candidate selection. Expectations, short-and long-term planning of where to transplant and not transplant is the key. Younger patients have greatest risk of long-term widespread hair loss and therefore must understand what can and cannot be accomplished with a hair transplant. If a patient has realistic short-and long-term expectations, they are potential candidates for the procedure.

The donor harvesting is performed using local anesthesia such as lidocaïne with epinephrine. Patients are in the prone position for harvesting the grafts from the posterior scalp.

Ellipse (FUT-FUL) Versus Follicular Unit Extraction

Currently, there are 2 techniques for removing donor hair: elliptical donor harvesting (FUT-FUL) and follicular unit extraction (FUE). Elliptical donor harvesting has been performed for over 20 years. The length and width of the ellipse depends on whether hundreds or thousands of follicular units from the posterior scalp are needed to be transplanted in the bald scalp. The ellipse is then separated under stereomicroscope by skilled surgical assistants into individual follicular units.

FUT is a strip with prior shaving, FUL is the same without any shaving so with long hair.

Follicular unit extraction is the direct removal of individual follicular units using 0.8 to 1 mm manual punches, mechanically assisted devices, or robotically. With FUE surgery, the entire posterior scalp is trimmed to 1 mm.

There is an intense debate as to which technique is superior. Advocates of elliptical donor harvesting believe that there is a lower transection rate of follicular units resulting in greater

growth of transplanted hair. Advocates of FUE prefer the minimally invasive aspect of obtaining follicular units, absence of a long linear scar, and no need for sutures results in better wound healing. In addition, FUE mimics the trend in medicine toward minimal invasive surgery.

Currently, both techniques should be considered state of the art in hair transplantation. Both techniques should be discussed during a hair transplant consult. Each technique has potential advantages for the individual patient. For example, a man who wears his hair short or may want to wear his hair short in the future would choose FUE as the preferred harvesting method. The pinpoint scarring from FUE is less obvious to the eye than a linear scar from an ellipse. But the fine scarline could be easily corrected in a second time with some FUE. Meanwhile, a woman with length hair will never trim hair to 1mm in length necessary for FUE, which makes elliptical donor harvesting the clear choice. The keys to a successful hair transplant surgery remains to be appropriate candidate selection, the skill of the physician and surgical team, and choosing the appropriate procedure for the patient.

For those who choose to get the maximum number of harvested hair we recommend to combine both procedures.

The recipient sites to place grafts in the bald scalp are made with #19-#21 gauge needles or microsurgery blades. The grafts are placed with microvascular forceps. In some indications we prefer the use of the choï implanter.

Holding solutions

Another controversy in hair is centered around the ideal holding solution for the time the grafts are out of the body. To date, there are no firm data how long grafts can remain in a holding solution and remain viable, but anecdotal evidence has shown that graft survival tends to decrease consistently when out of the body time is greater than 2 hours. There is little debate that grafts must be kept well hydrated and handled gently. Historically, normal saline has been widely used as an effective and inexpensive fluid that can be used at room temperature. However, there is evidence that other aspects can and possibly should be optimized, including the temperature, osmotic balance, pH, and electrolyte balance. Platelet rich plasma (PRP) has been suggested as an alternate holding solution.

Conclusion

The newest follicular unit transplantation techniques, such as FUE (follicular unit excision) and FUL (follicular unit long hair) or FUT provide a definitively aesthetic and natural looking hair restoration for the majority scalp alopecia and for a better correction of the eyebrows, the beard and the moustache. We can imagine in the future the possible help of robotic or automatic hair implanter but the artistry and final result will always be in the hands of the surgeon.