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Use of Beard Donor Hair in Fue Hair for Advanced Androgenic Alopecia

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Abstract
Introduction:
Hair transplantation is one of the most common cosmetic procedures for men all over the world with demand for higher density and treatment of extensive hair loss. Beard hair FUE grafts can be successfully used either alone or in combination with scalp hair in cases of advanced grades of baldness, for improving the cosmetic appearance of hairlines, when there is paucity of donor scalp hair.
Objective:
The objective of our study is to demonstrate the use of beard hair grafts to increase the visual density and for better coveragefor advanced Norwood grades of androgenic alopecia (AA).
Materials & Methods:
Four patients with Norwood grade IV and above were selected for the study and consentfor body hair harvesting was taken. Beardhair was harvested using the follicular unit excision (FUE) technique [(8)]. Post-operative pictureswere taken and patient satisfaction, doctor's observation & photographic evaluation was done.
Results:
All the four patients were followed up and evaluated at 4, 8, and 12 months. In these cases use of beard hair combined with scalp hairhighly enhanced the visual density and better coverage in even higher grades of hair loss.
Conclusion:
Combining scalp as well as beard hair is a good method to treat advanced Norwood grades of hair loss as wellas to enhance the results of hair transplantation.
Key words: *Norwood grade,Androgenic alopecia, beard hair transplant.*

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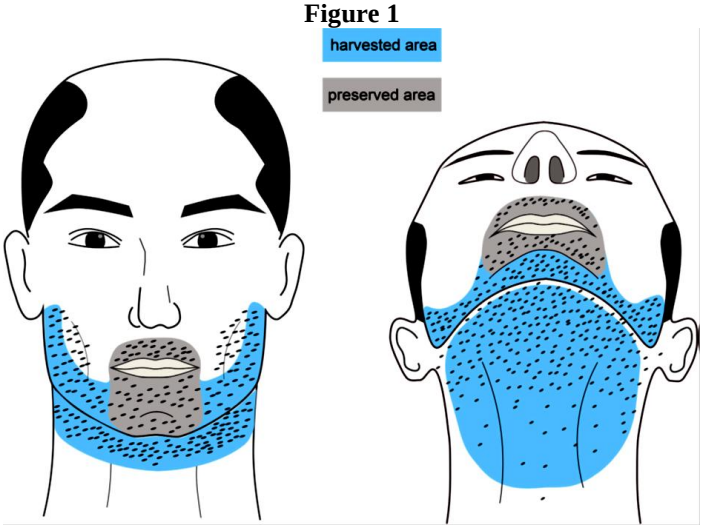
I. Introduction

Autologous hair transplantation has been the safest and very effective treatment for androgenic alopecia. Routinely the occipital area serves as a safe donor zone, and the average survival rate of transplanted hair follicle units is around 95%. But when the patient is having severe alopecia, the occipital area follicular units alone might compromise the cosmetic results [(11, 12)]. Follicular unit extraction (FUE technique) has made it possible to extract the individual follicular units from the body and beard donor areas without strip excision and suturing. This method enables us to use body and beard hair as additional donor hair in suitable patients [(2)].Beard hair, in particular, has been utilized more than hair from other parts of the body, including armpit hair, limb hair, chest hair, and pubic hair [(3)]. The beard donor hair differ in characteristics, (length, calibre, colour, growth cycles etc.), from the scalp donor hair. Moreover the techniques of harvesting beardhairs are more time consuming and technically difficult. Beard donor hair extraction requires higher degree of skill than regular scalp FUE. Beard hairtransplantation can be successfully used either alone or in combination with scalp hair particularly in advancedgrades of baldness. It is also useful for improving the cosmetic appearance of hairlines and also in scarring alopecia whenthere is paucity of donor scalp hair.

Harvesting of beard hairs opens up a new viable donor source forhair restoration surgeons [(1)]. It is especially useful in cases of advanced Norwood grades IV and above ofandrogenic alopecia.Since Patients from different ethnic backgrounds have different skin and hair biology characteristics, they can get varied symptoms like irritation reactions and different wound healing pattern. There are few complications observed in different populations following beard hair extraction. Most common complications noted following beard hair extraction is hypo pigmented scars and folliculitis in the donor area below the jawline of those patients with darker skin. The safe donor site for the beard area should be restricted to the submandibular area. (Figure 1)When a large number of beard hairs are extracted, the occurrence of hypopigmentation in the beard site is more visible.

Figure 1



II. Method

We have mixed scalp hair follicles with beard hair and transplanted to cover the area of hair loss for all four cases [5, 6]. We have done thorough preoperative assessment for all cases of male pattern alopecia of Norwood grade IV and above. They were examined and evaluated for donor availability of scalp and beard hair. In India, many patients have very good beard hair. We got preoperative consent for using the combination approach.

We have done trichoscopic examination of scalp donor area at various locations.Both scalp and beard donor hair follicles were harvested using the FUE technique. The total follow-up period was 18 months [9, 10].

For Norwood grade IV,

- 2,500-3,000 grafts planned.
- 20-30% of the total grafts from the beard (approximately 600-900).
- In the first 2cm of thedefined hairline zone, including the transition zone, only scalp hair follicles were used[7]
- Then in the three rows behind the defined zone, we mixed scalp with beard hair in the ratio of 2:1 for a more natural look, while in the forelock area, we mixed scalp with beard 1:1 for more fullness.
- Similarly, in the mid-scalp area, we placed the remaining beard hair mixed with scalp hair follicles roughly in the ratio of 3:1.
- For younger patients crown was not covered as there is chance of progressive hair loss in that area.We advised them to initiate medical therapy. Figure 2&3 below depicts scalp and beard hair placement showing the planning of combination grafting.

Figure2

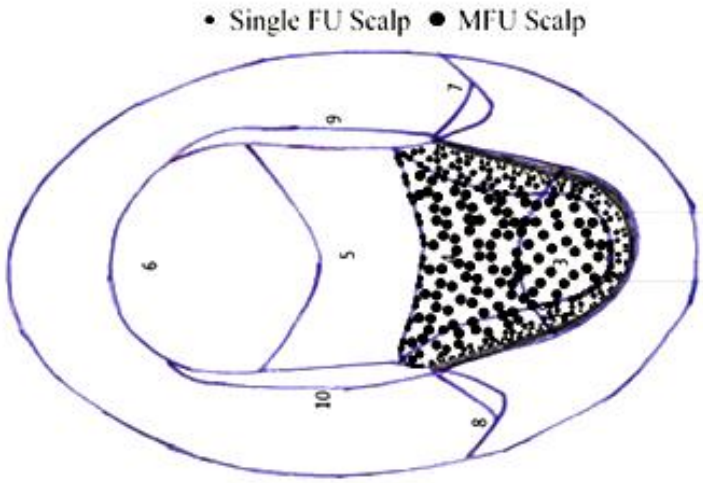
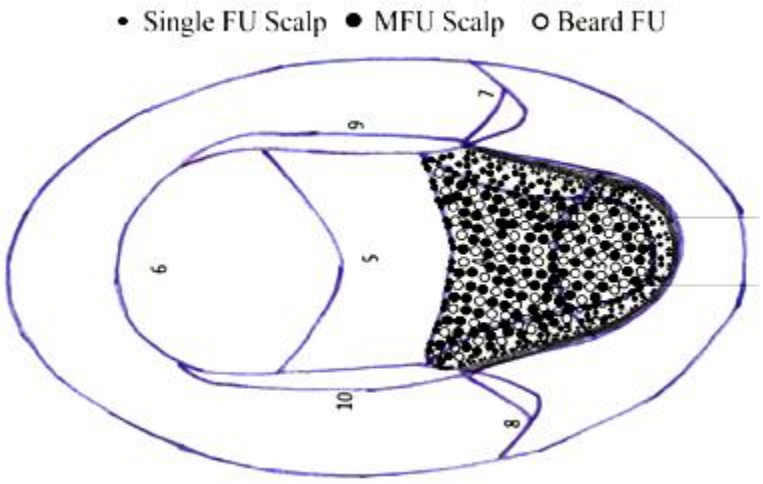


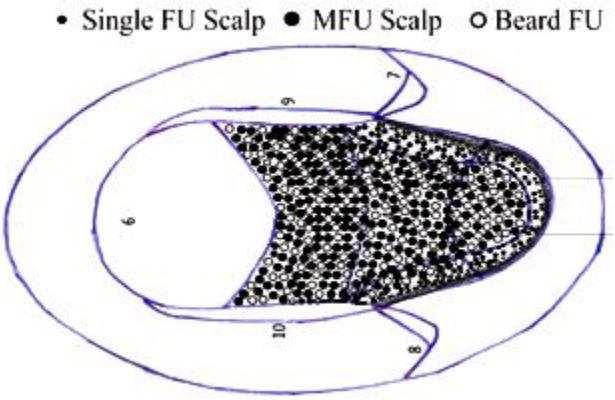
Figure 3



For Norwood grade V baldness,

- 4,000-5,000 grafts were planned.
- In a single harvesting, either by FUT or FUE, we harvested 2,000-3,000 grafts from the scalp donor area
- Remaining from the beard.
- Planning of placement with mixing of the scalp to beard ratio remained the same as explained for grade IV, only that the remainingbeard hair was placed in the mid-scalp area.
- The procedure was done in two consecutive days. All scalp hair follicles were inserted on day 1 leaving space for beard hair follicles for the next day. On the second day, beard hair follicles were harvested and inserted in the gaps left between the scalp hair follicles. (Figure 4.)

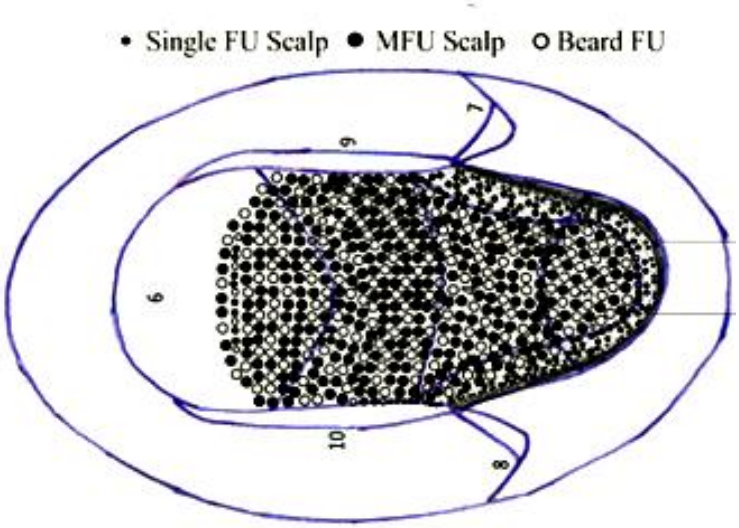
Figure 4



In Norwood grade VI

- 6,000-7,000 grafts
- 4,500-5,000 from the scalp in multiple stages
- Remaining from the beard.
- In the first session, two consecutive days are planned. A total of 5,000 grafts are harvested to transplant from the hairline to the vertex transition point. Out of these grafts, 2,500-3,000 are harvested from the scalp and the remaining from the beard. The planning of graft distribution in the front area remains the same as described in grades IV and V, and the remaining area of the scalp is done mixing scalp hair with beard hair.
- Further sessions were planned after a minimum of 4-month delay. It may be a 1- or 2-day harvesting session. All precautions are taken that the dose of anaesthetic agent remains within safe limits (figure 5).

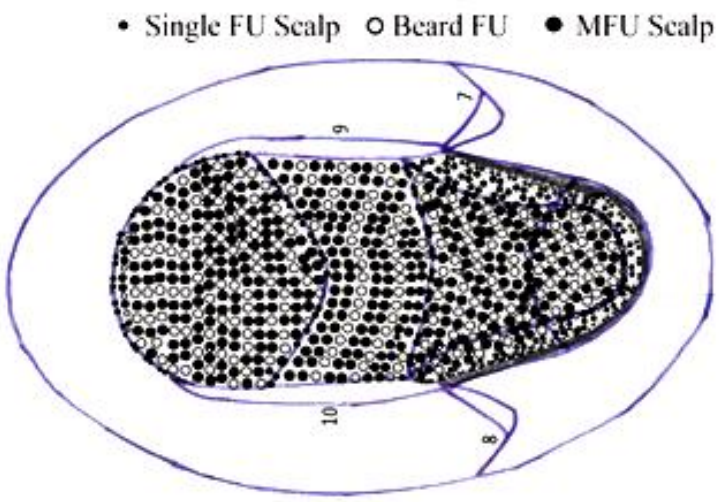
Figure 5



For Norwood grade VII,

- 7,000-8,000 grafts in multiple sessions.
- Planning remains the same as in Norwood grade VI.

Figure 6



III. Results

We have monitored the growth and characteristics of the transplanted scalp and beard. The patient acceptability of different donor sources was highest when the beard donor hairwas mixed with scalp donor hair. This held true even in cases where the patient's scalp hair was finecalibre and straight while the beard donor hair was thick calibre and wavy (figure7, 8). We used fine needle tip asa cutting instrument as it reduced the difficulty posed by larger extraction sites and lowered the transection rates of the beard donor hair.

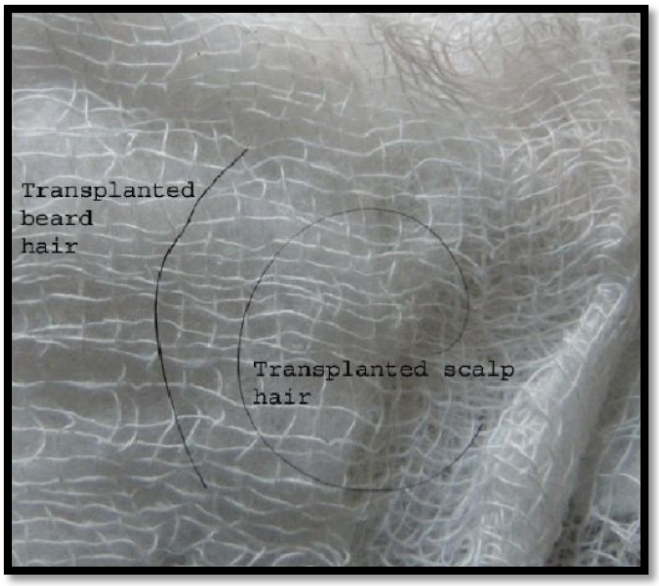


Figure 7

Figure 8

IV. Discussion

In suitable patients, with ample beard hair growth, we can use beard donor hair to augment the scalpdonor resources to provide a fuller hair restoration [13]. However, when using beard areas as theadditional donor source, it is important to observe the differences in the characteristics of this haircompared to the scalp hair. It must also be impressed on the patient that the beard donor hairis not going to change its characteristic curl, colour, calibre after transplant to the scalp. We have to take utmost careneeds to use a mix of the various donor hair in any bald area of the scalp [14, 15]. Thiswill avoid the situation where different areas of the recipient scalp may have differing hair types. Thethicker calibre beard hair is usually not transplanted in the hairline and the temples as these areastypically have finer calibre hair [16]. The ideal hair which can e used in these areas would be the scalp hair. Use of beard donor hair for previous strip scars – this is anotherarea where the beard donor hair can be used very effectively. However, in cases where the scalp andbeard donor hair differ widely in terms of calibre and colour, it is not advisable to transplant the thickercalibre, different coloured beard hair at a high density all along the strip scar. This will lead to the stripscar being replaced with a linear zone of thick calibre, different colour hair. In such patients, it'sadvisable to transplant the beard hair at a low density (<20 grafts per sq. cm), and to mix them withdonor hair follicles derived from the scalp.

V. Conclusion

We can use beard hair as an additional donor resource for treating androgenic alopecia. These hairs, however, do not change their colour, curl, and shaft diameter (calibre). So we have to plan properly when using the different types of donor hair for transplanting.Combining scalp and beard donor hair is a good method for treating extensive hair loss as well as enhancing the results of hairtransplantation in suitable patients.

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