Original article

Autologous skin punch grafting in localized, fixed vitiligo.

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Abstract

Background A number of medical modalities including photo(chemo)therapy, topical and systemic steroids etc. are used in the treatment of vitiligo. Surgical treatment like punch grafting is recommended for localized, fixed disease.

Objectives To assess the clinical efficacy and safety of autologous skin punch grafting in patients with localized, fixed vitiligo.

Patients and methods 40 adult cases (26 females and 14 males) having 207 localized vitiligo patches, unresponsive to medical measures for more than a year were included in the study. After investigations, they were subjected to test grafting and later to complete grafting of involved areas. Donor grafts were taken from normal areas.

Results More than 85% patches showed good to excellent response after three months of grafting and PUVA therapy. No alarming side effects were recorded.

Conclusion Autologous skin punch grafting is a safe, effective and promising mode of treatment in cases of localized fixed vitiligo.

Key words
Autologous, punch graft, vitiligo.

Introduction

Vitiligo is an acquired achromic condition occurring in 1% to 2% of the general population affecting all races.[1,2] When exposed areas are involved, it may have devastating aesthetic impact especially in dark skinned people.[3] The medical treatment includes topical and systemic steroids, topical and/or systemic methoxalen and ultraviolet light in the A range, narrow band 311nm UVB, or natural sunlight.[4-7] Repigmentation is best seen on face and neck (60-70%) and trunk and limbs (40-50%). Hands, feet and lips show even poorer results and segmental vitiligo may show no response to topical steroids and other modalities.[8-13]

There have been many reports of complete repigmentation of vitiligo after localized autologous minigrafting.[6,7,13,15,16,17] We planned this clinical study to evaluate its efficacy and safety in our patients.

Patients and methods

Forty consecutive adult patients of vitiligo were enrolled from 1998 to 2002 at the department of dermatology, Mayo Hospital, Lahore. All had localized, non-progressive disease at almost every part of the body for the last two to 20 years. All had already tried a number of modalities with no or minimum success. They were investigated for bleeding disorders and

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chronic illnesses. Each patient was test punch grafted on one of the areas and outcome was recorded after regular follow up. All patients exhibiting satisfactory pigmentation were subjected to punch grafting on all the remaining sites. Disposable punches of 4 mm were used for both donor and recipient areas. Donor grafts were usually taken from inner side of upper arm, back of the ears and inner side of thighs. Areas operated were covered with surgical dressings for 48-72 hours. Any graft loss was replaced and dressings were removed after one week. Patients were started on PUVASOL or PUVA in the chamber. The resulting pigmentation and side effects were recorded during follow up for one year. Final assessment was made according to the five scale system from G0 to G4 as mentioned in **Table 2**. All the patients were photographed before, during and after treatment.

Table 1 Vitiligo distribution (n =40)

Area		*Male (n=14)*	*Female (n=26)*	*No. of vitiliginous patches (n=207)*
Face		12	19	48
Neck		2	7	20
Trunk				
	Front	2	14	28
	Back	3	12	26
Arms		1	7	15
Hands		7	13	20
Legs		2	12	31
Feet		3	12	19

Table 2 Results at 6 months - 1 year follow up

Grade of repigmentation	*Patches*	*Result*
G4	105	Excellent
G3	69	Very good
G2	21	Good
G1	9	Satisfactory
G0	3	Poor

G4 = > 75% repigmentation; G3 = 50-75% repigmentation, G2 = 25-50% repigmentation; G1 = up to 25% repigmentation; G0 = no repigmentation

Results

Two hundred and seven patches of vitiligo were punch grafted in these forty patients (distribution given in **Table 1**). One hundred and seventy four patches showed G3 pigmentation or above in the range of excellent pigmentation. **Figure 1** and **2** show almost 100% repigmentation. Rest of the patches showed variable pigmentation and three of them did not pigment at all despite repeated grafting. **Table 2** gives break up description of the patches and their pigmentary response after following them up for 6 months to one year.

Figure 1 Autologus punch grafting on forehead

Figure 2 Complete repigmentation after six months

Discussion

Studies show 90% to 100% pigmentation after minigrafting.[14,15,17] When we compare

our results with these studies, almost similar response was obtained. Cobblestone appearance of the recipient areas is well known.[14,15,17] We, too, had this problem earlier on but later, the use of thin donor grafts in recipient wells minimized it. However, no major complication was encountered throughout. Pigmentary improvement accomplished with minigrafting is not only due to melanin spread from the graft's edges, but also to melanocyte recolonization of the epidermis within the achromic skin.[7,19]

Some of our cases did not respond after repeated grafting and PUVA exposure. The reason was not known but similar problem is well known.[7, 15, 19]

Conclusion

Our results, when compared with those from abroad, are quite promising and we conclude that autologous skin punch grafting of fixed vitiligo is a safe and effective method of treatment of resistant cases in our patients.

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