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Research Article

Demographic Study of Donor Site of Skin Grafting

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Abstract

In this original research article, its author presents the results of his research, which was devoted to the presentation of found collection materials (philatelic, phylumenic and numismatic), thematically dedicated to dermatology and venereology, as well as their heroes, scientists and practitioners who worked in this area of medicine. A total of 23 philatelic, phylumenic and numismatic materials were found.

Keywords: dermatology; venereology; syphilis; scientists; researchers; philately; philumeny; numismatics; commemorative medals; postcards; screenshot copies

Introduction

Donor site scars are an inevitable consequence of skin grafting. Some studies have indicated that patients are broadly satisfied with their PSS although some may experience a poorer quality of life (QoL).

The Vancouver Scar Scale (VSS; Table 1) was first introduced in 1990 and has been validated [1-3] and extensively described in the literature

The Patient and Observer Scar Assessment Scale (POSAS) [4] is a validated, quantitative scoring tool that evaluates aspects of a donor site scarring, including pain and colour. Similarly, questionnaires such as the European Quality of Life 5 Dimension (EQ-5D) [5], as well as Likert scales [6], can quantitatively evaluate a patient's QoL.

Numerous factors are believed to influence patients' attitudes towards their donor site scarring, including time elapsed post-operation, patient age, race, and scar location.

Understanding the factors influencing patient donor site scar satisfaction facilitates targeted peri-operative interventions that may improve donor site scar cosmesis, patient satisfaction, and QoL. These include peri-operative discussions managing patient donor site expectations and post-operative treatments [7]. Unfortunately, there is little data available regarding patient attitudes towards orthopaedic PSS.

Our study aims to investigate the attitudes of patients towards their donor site scarring using quantitative scar assessment scales and to identify factors associated with donor site scar satisfaction.

Methods

This study was conducted in the Department of Plastic Surgery at a tertiary care center after getting the departmental ethical committee approval. Total 64 scars were enrolled into the study randomly postskin grafting donor site scars were included. The scars were evaluated only twice during the study using the Vancouver scar scale scoring system, which included the following parameters and scores; vascularity (normal=0, pink=1, red=2, purple=3),pigmentation (normal=0, hypopigmentation=1, hyperpigmentation=2), pliability (normal=0, supple=1, yielding=2,rm=3, banding=4,contracture= 5), and height (normal=0, <2 mm=1,2~5 mm=2, >5 mm=3) and clinical photography, once immediately after healing

Results

The mean age of patients was 43.6±16.4 (range, 22-59 years)., respectively

The mean age of study participants was 43.6±16.4 (range, 22-59 years). The mean age of males (36.8±4.1 years) was significantly lower (independent t-test, P=0.037) than females (47.1±14 years), respectively. Table 1 and Figure 1 shows the age distribution of subjects.

*Age Group (years)	N=58
20-30	22(37.9)
30.1-40	2(3.4)
40.1-50	6(10.3)
>50.1	28(48.3)

*Expressed as frequency and percentage

Table 1

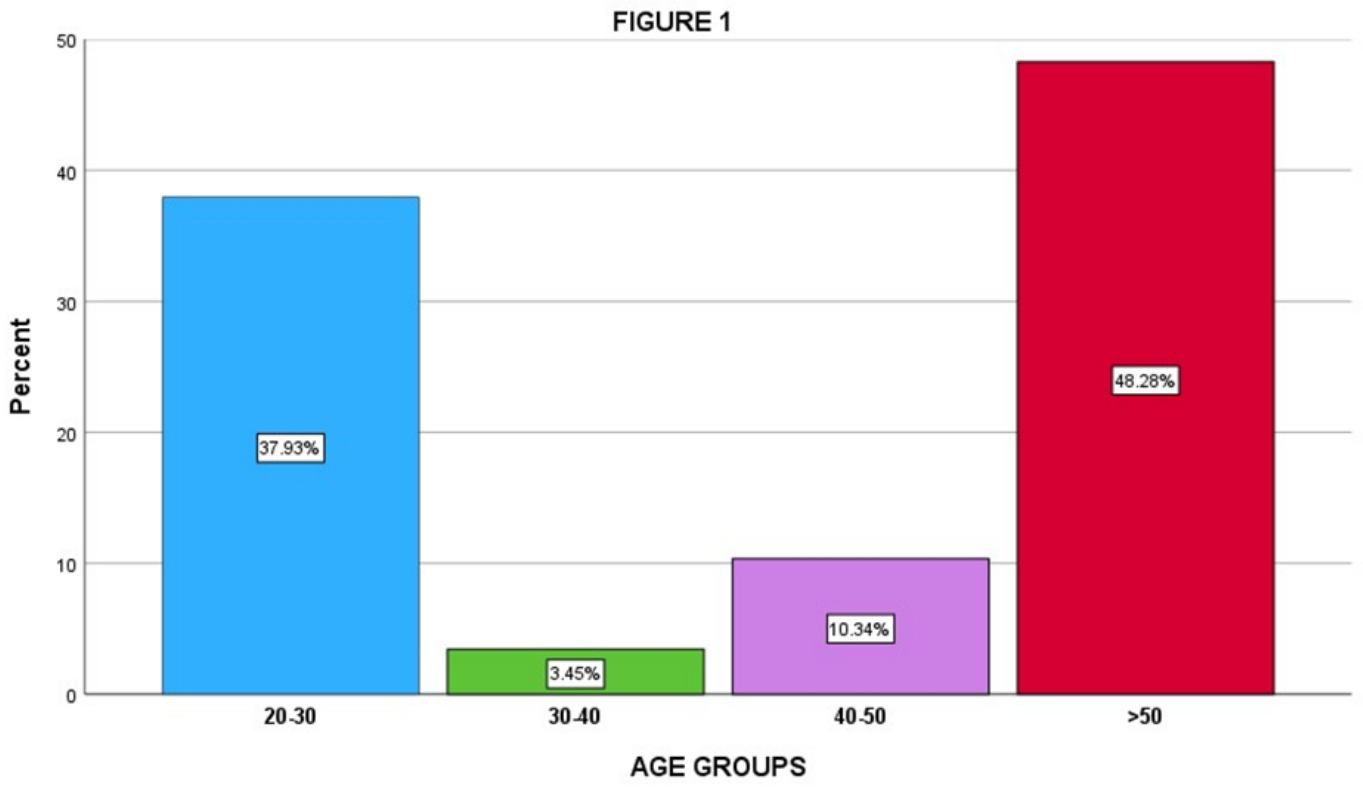

Figure-1

There were 20(34.5%) males with a male female ratio of 0.52:1. Table 2 and Figure 2 mentions the gender distribution

*Gender	N=58
Male	20(34.5)
Female	38(65.5)

Table 2: mentions demographic data collected in format of table 4

Parameter	N=58
**Age (years)	43.6±16.4
*Socioeconomic status	
Low	48(82.8)
Middle	10(17.2)
*Site of scar	
Right	42(72.4)
Left	16(27.6)
*Native area	
Tamil Nadu	54(93.1)
Kerela	2(3.4)
Pondicherry	2(3.2)
*Co-morbidities	0

Table 3

Name -	
Age	
Gender	
Hospital No	
Address	
Contact number	
Diagnosis	
Co-morbidities	

Table 4: format for data collection

Parameter	Total VSS	P value
Age Group		
20-30	6.5±1.7	0.136**
30.1-40	4.0±0.1	
40.1-50	6.6±1.6	
>50.1	6.1±1.3	
Gender		
Male	6±1.9	0.316*
Female	6.4±1.2	
Socioeconomic status		0.689*
Middle	6.1±1.7	
Low	6.3±1.5	
Site of scar		
Right	6.5±1.5	0.102*
Left	5.7±1.5	

Table 5:

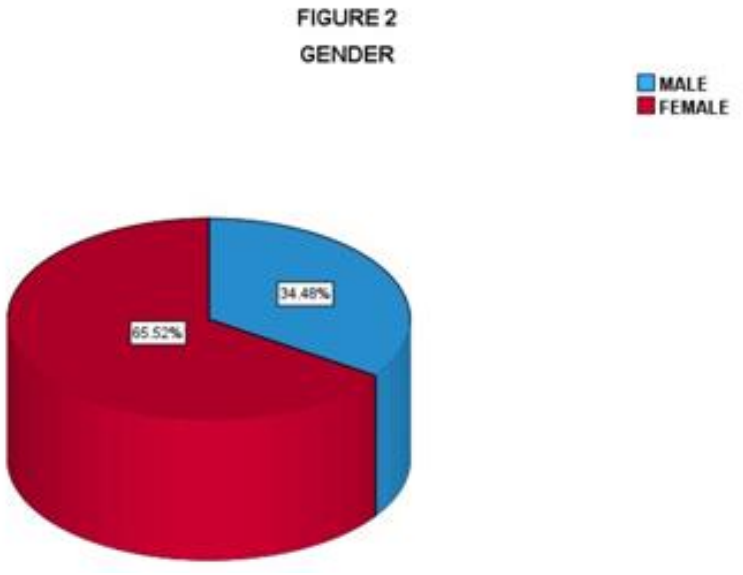

Figure 2-gender distribution

Discussion

The scar is defined as fibrous tissue that replaces the wound [8] During the process of healing the wound develops a bridge of collagen fibers with a thin epithelium, forming an immature scar [9]. The process of wound healing comprises three phases, the inflammation phase which lasts for a few days, the proliferation phase lasting for weeks, and the maturation phase takes several months or years. Hypertrophic scars begin to develop 6 to 8 weeks after wound healing, it grows for 3 to 6 months, and then regress after 6 months [10]. An immature scar is red, raised, rigid, and hypopigmented, During the process of maturation the scar becomes pliable, flatter, less vascular and color is normalized. The difference between the normal scar, immature scar lies in the difference in their extracellular matrix composition. A normal scar when mature consists of 80% type-I collagen with 10-15% type-III and a minimal amount of type-V collagen. This composition is altered in an abnormal scar with an increased ratio of type-III to type-I collagen and abnormal scar consists of around 33% type-III, 10% type-V, and around 60% type-I collagen. Apart from the composition of the collagen, the arrangement of fibrils and interfibrillar space also is different in an abnormal scar compared to the normal mature scar. The cellular function of fibroblasts and keratinocytes is also altered in an abnormal scar making them pro-fibrotic. The expression of cytokines is also altered in an abnormal scar. The balance between matrix metalloproteinase (MMPs) and tissue inhibitors of metalloproteinase (TIMPs) is altered and is moved towards the pro-fibrotic side. Transforming growth factor-β (TGF-β), connective tissue growth factor (CTGF), platelet-derived growth factor (PDGF), and insulin-like growth factor 1 (ILGF-1) are up-regulated, meanwhile interferon-α (IFN-α) and interferon-γ (IFN-γ) are down-regulated.[11]

In our study, the mean age of study participants was 43.6±16.4 (range, 22-59 years). The mean age of males (36.8±4.1 years) was significantly lower (independent t-test, P=0.037) than females (47.1±14 years), respectively. There were 20(34.5%) males with a male female ratio of 0.52:1.

VSS was better in young age group. Similarly, VSS was better in females. pigmentation was seen more in old age group & male gender.

Low socioeconomic status patients have increased vss score

Conclusion

Donor site scars are an expected consequence of skin grafting. on using quantitative scar assessment scales demographic factors associated with donor site scarring satisfaction have been identified. Old age and male gender have increased vss score. pigmentation is more in male gender and old age people.

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