

SCAR EVALUATION IN PATIENTS UNDERGOING MELANOCYTIC NEVI EXCISION BY PUNCH EXCISION TECHNIQUE: A PILOT STUDYKanathur Shilpa¹, Savitha Somaiah², H. V. Nataraja³, D. V. Lakshmi⁴, Gorur Divya⁵**HOW TO CITE THIS ARTICLE:**

Kanathur Shilpa, Savitha Somaiah, H. V. Nataraja, D. V. Lakshmi, Gorur Divya. "Scar Evaluation in Patients undergoing Melanocytic Nevi Excision by Punch Excision Technique: A Pilot Study". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 39, May 14; Page: 6824-6831, DOI: 10.14260/jemds/2015/990

ABSTRACT: BACKGROUND: Melanocytic nevi excision is one of the commonly done procedure in dermatosurgery. Patient seeks excision of nevi for varied etiology like increasing in size, fear of malignancy, cultural beliefs and more commonly for cosmetic purpose. When it is done for cosmetic purpose, scar arising out of the procedure is a real concern for the patient. So this study was undertaken to evaluate the scar in patients who have undergone excision of melanocytic nevi using punch technique. **AIMS:** Subjective and objective analysis of the scar arising out of melanocytic nevi excision using punch. To study the recurrence rate of melanocytic nevi following punch excision. To evaluate the cosmetic outcome of the scar. **SETTINGS AND DESIGN:** A prospective study of evaluation of scar following punch excision of melanocytic nevi in 30 patients. **MATERIALS AND METHODS:** 30 patients who fulfilled the inclusion criteria were enrolled for the study. Punch excision technique was performed with prior consent and counseling. Patients were followed at day 3, and 5 post procedure and 6th month for scar assessment. Both subjective and objective scar analysis was performed at the end of six months. **RESULTS:** Complete removal of nevi was achieved in all 30 patients with excellent cosmetic results with no recurrence at the end of 6 months. **CONCLUSION:** Melanocytic nevi excision with skin biopsy punch is a simple, inexpensive technique with excellent cosmetic outcome.

KEYWORDS: Melanocytic nevi, Scar, Punch excision.

INTRODUCTION: Melanocytic nevi, more commonly known as mole are the benign neoplasms or hamartomas comprising of melanocytes that constitutively colonize the epidermis. They are the common lesions present on almost all individuals. The color of the melanocytic nevus varies from tan, brown to jet black depending on the skin type. They can be congenital or acquired. Depending on the level of pigment cells they can be classified as dermal, compound or junctional nevi.

Patient may seek melanocytic nevus excision for various reasons i. e., for cosmetic purpose, for its increasing in size, fear of malignancy and sometimes cultural beliefs.

There are many methods of removal of melanocytic nevi including surgical and non-surgical. The non-surgical techniques that can be employed to remove melanocytic nevi are using Co₂ laser, radiofrequency and electrocautery. The various factors that limit use of Co₂ laser as a treatment of choice are non-availability of tissues for histopathological examination, high chance of recurrence in case of deeper lesions, a theoretical possibility of malignant transformation,¹ and its high cost.

Although radiofrequency and electrocautery are commonly used for removing congenital acquired melanocytic nevi (CAMN), the nonspecific thermal damage induced by these techniques and the consequent cosmetic results do not justify their use in CAMN, removal of which is largely a cosmetic concern.²

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Hence, surgical excision remains the most widely used and one of the best methods taking all perspectives into consideration. This is technically less demanding and can be performed even by a novice cutaneous surgeon if basic principles of cosmetic surgery are taken care of.³ The various surgical techniques that can be employed in removal of melanocytic nevi are shave excision, round/punch excision, elliptical excision.

Shave excision is a technique in which the exophytic part of a skin lesion and part of the intradermal structure down to the papillary dermis are shaved of using surgical or razor blade. Though this technique has a favorable cosmetic outcome, its use is limited to superficial or exophytic lesions as there is high rates of recurrence, non-availability of complete tissue for histopathological examination, and inability to remove deeper lesions.

Total elliptical excision is probably the most widely used method of removal especially when malignancy is suspected as adequate specimens for histological interpretation are required. When malignancy is not suspected, the cosmetic result becomes the first priority. Smaller incisions minimize tissue trauma and so give cosmetically superior results. Round excision has been recommended for the removal of moles but has not been widely practiced. Round excision and punch excision may be better alternatives than conventional fusiform excision of benign dome-shaped or papular nevi of the face, as more tissue is preserved. Expedient and simple surgery with excellent cosmetic results can be accomplished by the use of punches. In this technique, less skin is excised and histopathological examination can be done.⁴ This technique doesn't require specialized equipment, being performed with readily available skin biopsy punches which are available in all required sizes from 1mm to 6mm.

This study was undertaken to evaluate the cosmetic outcome of the scar in patients undergoing melanocytic excision using punches.

MATERIALS AND METHODS: 30 patients with melanocytic nevi over the face of size ≤ 6 mm, circular or oblong in shape which could be excised completely using the circular punches were enrolled for the study. To analyze the co relation between nevi size and scar outcome the sample size were grouped into A and B, Group A ≤ 4 mm and Group B >4 mm.

Exclusion criteria were patients with melanocytic nevus of more >6 mm, and who have nevus in any location other than face, patients on systemic retinoids, evidence or history of keloid scars, pregnancy or lactation, history of any facial surgery or procedure for scars and patients with unrealistic expectations.

After relevant investigations, patients were counseled and written informed consent was taken for surgical procedure. Lignocaine sensitivity was performed in all patients. Pre procedure photographs were taken and were posted for surgery. The reason for excision was also noted.

Surgical procedure: The area to be operated was painted with povidone iodine. 2% lignocaine was used as infiltrative anesthesia. An appropriate size of the punch to ensure complete removal of the nevi was taken, skin around the lesion is stretched using the left hand, punch is kept perpendicular to the skin and with gentle rotatory movements it is slowly down to mid-subcutaneous tissue to remove the nevus down to its full depth (Figure 1). Then the punch is removed, tissue is held with forceps and cut using no 15 scalpel blade (Figure 2). After achieving hemostasis the site is left untouched for 5-10 mins. The advantage of punch technique over elliptical excision is that the on table confirmation of precise inclination of relaxed skin tension lines, by making the patient engage in a variety of

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exaggerated facial expressions is not needed. The punched out wound orients itself along resting skin tension lines (RSTL) after few minutes (Figure 3 and inset). After ensuring complete removal of the nevus, undermining was done and wound closed in single layer with 5-0 prolene (Figure 4). Wound was dressed and patients were asked to come after 3 days for dressing. Patients were put on oral antibiotics. On 3rd day wound was examined to rule out any signs of infection, wound gaping, bleeding or any other complications. Wound was redressed and patients were reviewed on 5th day for suture removal. Steristrips were applied after suture removal and patients were asked to continue steristrips application for 3 weeks. All the patients were followed up after 6 months for evaluation of scar. Scar evaluation was done according to modified Stony Brook Scar Evaluation Scale (SBSSES) which included parameters like width, height, color, surface, texture, hatch marks and overall appearance of the scar as given in Table no 1. Maximum score of 7 was given for the worst scar and a minimum score of 0 was given for the best scar.

Simultaneously, subjective analysis of the scar was done where the patients were asked to grade the scar from 0-10 with 0 implying the worst scar and 10 the best scar (Figure 5) . Patients were also asked whether they find scar better than nevus or vice versa.

RESULTS: Out of the 30 patients enrolled for the study, 14 patients were in group A and 16 patients were in group B. Among them 12 were females and 18 were males. The mean age group was 36 years.

Among 30 patients 18 patients underwent excision for cosmetic purpose, 8 patients for increasing size, 3 patients for fear of malignancy and one patient for cultural belief that nevi on left side had got misfortune for her.

Subjective analysis of the scar was done by patient. The Group A showed the mean value of 8.45 and group B showed mean value of 8.23.

Objective analysis of scar by the modified Stony Brook Scar Evaluation Scale results showed that the average scar scale in group A was 1.90 and in group B it was 2.38. None of the patients had recurrence at 6 months follow up. All the patients felt that scar was better than the nevi. Results of the study has been tabulated in Table 2. Cosmetically acceptable scar arising out of the procedure have been shown in figures 6-8.

DISCUSSION: Common acquired melanocytic nevi are a common, largely acquired, condition resulting from benign proliferation of nevus cells. This disorder, also referred to as “signature nevi,” has been variably classified depending on the anatomic, architectural, and cellular histological pattern.⁵ The average number of nevi in young adults varies from approximately 15 to 40.⁶ The treatment of CAMN is in most scenarios dictated by cosmetic necessity.⁷

Although common acquired melanocytic nevi are largely benign, they are probably one of the most common indications for cosmetic surgery encountered by dermatologists.² Removal of a medium size melanocytic nevus whether congenital or acquired over exposed parts, especially over face is warranted for its cosmetic, embarrassment rather than for its potential to cause malignancy.³ In our study 60% of the patients underwent nevi excision for cosmetic purpose, stressing the importance of cosmetic outcome of the procedure, 27% of the patients got it done for increase in size and 10% for fear of malignancy.

Subjective analysis of the scar done by the patients showed that the average score in group A is 8.45 and group B is 8.23. That is, there was no significant difference in the patient satisfaction scale between the two groups.

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Objective analysis of the scar using the modified stony brook evaluation scale by an independent observer showed an average score of 1.90 in group A and 2.30 in Group B.

The objective scar analysis showed good cosmetic outcome in both the groups. However group A showed marginal increase in the cosmetic outcome of the scar though statistical significance could not be proved because of small sample size. Lesser the size of the nevus better outcome was observed. However there was no significant difference with respect to patient satisfaction between the 2 groups.

Ferrandiz L,⁸ et al in their study have shown excellent cosmetic results in one-third (32.8%) of the lesions excised and a poor result in 8.3% using shave excision technique. In the same study Ninety-eight percent of patients declared that "the scar looked better than the original mole." And clinical and dermatoscopic recurrences were observed in 40 scars (19.6%).

In our study both subjective and objective analysis revealed excellent cosmetic outcome in all patients. And all patients felt that the scar was better than mole and there were no recurrence in any of the case at the end of 6 months.

According to Hassan I et al,³ a round excision larger than a 4-mm punch is difficult to close without leaving excess outpouchings of skin or dog ears. In our study though small dog ear formation was encountered in lesions of 6mm size, they resolved with time, with good cosmetic outcome of the scar.

Though literature gives various treatment options available for melanocytic nevus excision, none of the studies have given information about the subjective or objective analysis of the scar following excision of melanocytic nevi. This study is a novel study of its kind where both subjective and objective analysis of the scar has been done.

CONCLUSION: To conclude, melanocytic nevi excision using appropriate size punch gives very good cosmetic outcome. Nevi up to 6mm can be removed using punch with excellent cosmetic outcome as there is more tissue salvage and a shorter scar. This technique being simple, inexpensive and self-alignment of the wound along the RSTL ensures good cosmetic outcome even with a beginner as this is the biopsy technique learnt very early in resident ship. This technique also ensures complete removal of the nevi. However a large sample size studies are needed to show a statistically significant results.

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1	Width	<2mm	0
		>2mm	1
2	Height	Flat	0
		Elevated/depressed	1
3	Colour	Normal	0
		Hyper/hypopigmentation	1
4	Surface	Matte	0
		Shiny	1
5	Texture	Normal	0
		Palpable/ firm/hard	1
6	Hatch marks	Absent	0
		Present	1
7	Overall appearance	Good	0
		Poor	1

Table 1: Parameters for scar evaluation

(Maximum score-7-worst scar, Minimum score-0-best scar, 0-3- very good cosmetic outcome, 4-6-average but acceptable, >6- poor cosmetic outcome).

	Group A	Group B
Total subjects	14	16
Sex ratio (M:F)	8:5	10:7
Mean age group	34	38
Subjective scar analysis score	8.45	8.23
Objective analysis score	1.90	2.38
Recurrence	Nil	Nil
Scar better: nevi better	14:0	16:0

Table 2: Results of objective and subjective analysis of scar in 2 groups

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Fig. 1: Punch being held perpendicular to skin with skin stretched



Fig. 2: Melanocytic nevus being cut from base



Fig. 3: A round defect following melanocytic nevus, getting re-oriented as an oval defect along RSTL (inset)



Fig. 4: Wound closed with 5-0 prolene

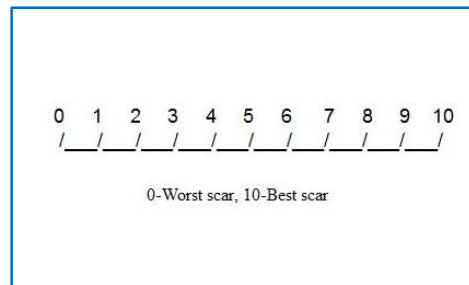


Fig. 5: Subjective scar analysis scale

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Fig. 6a, b, c, d: Melanocytic nevi near the nasolabial fold after punch excision with excellent cosmetic outcome

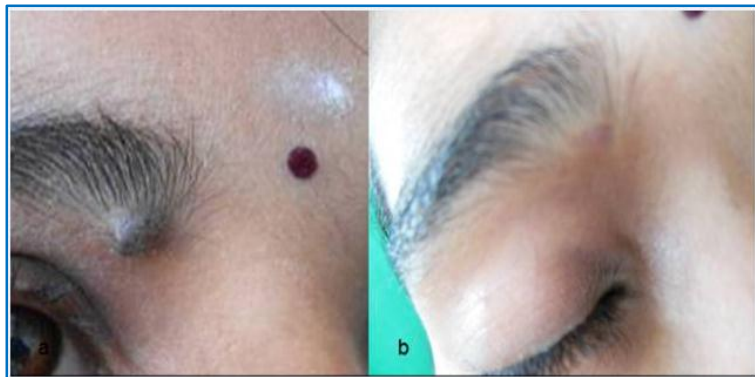


Fig. 7a, b: Melanocytic nevi on the medial aspect of eyebrow healing with barely visible scar



Fig. 8a, b: Melanocytic nevi after punch excision healing with minimal scar

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