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Contemporary Trends in Unilateral Cleft Lip Repair

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Abstract:

Background: Cleft lip is a common congenital facial malformation, estimated to occur in approximately 1 in every 600 live births. It has a significant impact on the developmental, somatic, and psychological aspects of affected individuals. This study aimed to compare the functional and aesthetic outcomes of the Fisher technique versus the Millard technique in unilateral cleft lip repair. **Methods:** This comparative surgical study was conducted at the Pediatric Surgery Unit, General Surgery Department, Benha University Hospital. A total of 20 patients with unilateral cleft lip were included and divided into two groups: Group A (n=10) underwent surgical repair using the Millard technique, while Group B (n=10) underwent repair using the Fisher technique. **Results:** Postoperative measurements showed that lip height, vermilion height, and nostril height were significantly higher in Group B compared to Group A ($P<0.001$ for all). Conversely, postoperative nostril width was significantly lower in Group B ($P=0.002$). No statistically significant differences were observed between the two groups in terms of preoperative lip height, pre- and postoperative lip width, preoperative vermilion height, pre- and postoperative alar base width, and preoperative nostril dimensions. **Conclusion:** The Fisher anatomical subunit technique produced more favorable functional and aesthetic outcomes and fewer complications compared to the Millard technique in unilateral cleft lip repair, as assessed by the Steffensen criteria. However, there were no notable differences between the two techniques in terms of incision appearance.

Keywords: Contemporary, Unilateral, Cleft lip, Repair.

Introduction

The physical, psychological, and developmental well-being of a patient are significantly impacted by cleft lip, a congenital facial malformation that is estimated to occur in 1 in 600 live births. Consequently, the efficacy of cleft lip reconstruction is crucial [(1)].

The United States has the second most prevalent congenital birth defect, with cleft lip trailing only Down syndrome. Each year, approximately 7,000 infants are born in the United States with oro-facial clefts [(2)]

Among the numerous issues that patients present are dental disorders, poor occlusion, deformation of the face and nose, and nutritional, respiratory, auditory, and articulation issues [(3)].

Presently, unilateral cleft lip defects are repaired using a variety of surgical techniques. The straight-line closure technique was first introduced in the 1840s to correct unilateral defects. Since that time, a variety of techniques have been employed to facilitate these procedures [(4)].

The initial documented cleft lip correction took place in the fourth century AD in China during the Tang dynasty. The neonate was advised to remain silent for approximately three months following the straightforward surgical procedure, which involved the incision and suturing of the cleft margins [(2, 5)]

Successfully repairing a cleft lip deformity is a difficult yet rewarding endeavour. In spite of its localization to a small anatomical region, the face necessitates greater attention and priority [(6)]

As a straight-line technique, the Rose-Thompson method was devised in the early 20th century and was employed by a significant number of surgeons. The vertical scar formation that results in a crevice in the upper lip was subsequently discovered to be a drawback of this technique. Consequently, numerous surgeons have developed alternative unilateral cleft lip surgery techniques, including the Millard and Fisher techniques [(7)]

Soon after the child's birth, the treatment commences and persists until adulthood. Aesthetic and functional rehabilitation are the objectives of cleft treatment. In order to preserve facial growth, normal speech formation, and the development of a proper dentition, surgical repair is crucial. The traumatizing effect is reduced as the number of interventions decreases, resulting in growth retardation [(8)].

The implantation of a lateral membrane into the upper portion of the mandible and the rotation of the medial portion downward are the components of the rotational advancement procedure, which was initially introduced by Millard in 1964. The reconstruction of the philtrum and Cupid's bow, the transfer of wound tension beneath the base of the ala, the reduction of nasal flare, and the direction of the typical progression of the alveolar procedure are among the advantages of this approach [(9)].

In order to construct a reduced triangular portion above the cutaneous roll, Fisher adapted the Rose-Thompson method's concept of using sloped incisions to elongate the lip. According to Noordhoff, this method was distinguished by incisions that were made with consideration for the anatomical subunits of the lip [(10)]

This study aimed to evaluate the functional and cosmetic outcomes of the Fisher technique in unilateral cleft lip repair in comparison to the Millard technique.

Patients and methods

This study was a comparative surgical study that has been carried out on Benha University Hospital – general surgical department - pediatric surgery unit during the period from February 2024 to February 2025 and it included 20 patients who underwent to repair of their unilateral cleft lip.

An informed written consent was obtained from the parents of patients. Every parent of patient received an explanation of the

purpose of the study and had a secret code number. The study was done after being approved by the Research Ethics Committee, Faculty of Medicine, and Benha University.

Inclusion criteria were both sexes above 6 months, non-syndromic unilateral cleft lip only and the patient has no other associated anomaly.

Exclusion criteria were Patients refusing participation in the research; unfit for surgery, below 6 months, with syndromic cleft lip, associated cleft palate or congenital anomalies, severe maxillary or mandibular hypoplasia, and major co-morbid disease.

Grouping: 20 patients were divided into two groups: **Group A:** 10 patients were operated by Millard technique and **Group B:** 10 patients were operated by Fisher technique.

All studied cases were subjected to the following: **Full history taking including** [Prenatal history: Mother's pregnancy, including any exposure to medications, alcohol, tobacco, or other potential teratogens and family history of cleft lip or palate, or other congenital anomalies, birth history: including gestational age, birth weight, and any complications, feeding history: assessing their ability to feed, weight gain, and any associated problems and medical history: Any other medical conditions, allergies, or previous surgeries, other potential congenital anomalies, developmental history: monitoring the infant's overall development]. **Physical examination including** [Detailed examination of the cleft: (Whether the cleft was complete or incomplete, the width and length of the cleft, the involvement of the nostril and nasal structures and Assessment of the alveolar ridge (gum line)), nasal examination: (The shape and symmetry of the nostrils was examined, any nasal deformities, such as alar base displacement), oral examination: A thorough examination of the oral cavity was essential to assess for any associated cleft palate or other oral anomalies, general physical examination, photographic documentation: preoperative photographs were essential for surgical planning and postoperative comparison, assessment of general health: Checking for any infections, and ensuring proper weight gain and presence of systemic disease or syndromes especially stickler syndrome, velocardiofacial syndrome, Pierre Robin sequence, Maxillary hypoplasia or mandibular hypoplasia]. **Lab investigations including** [Complete blood count, liver and kidney functions tests, coagulation profile, ECG and echocardiography when needed. for subjected cases of associated heart congenital anomalies, viral markers (Hepatitis b, c and HIV viral markers according to university hospital protocol) and audiometry and hearing function tests if suspected associated auditory anomalies].

Preoperative assessment

Local assessment of normal side versus cleft side in continuation of lip, cupids bow, white roll, wet to dry vermilion, oral commissure and assessment of nasal deformities like wide nostril base, shortening of columella and its shifting, hypoplasia of lower lateral cartilage of the nose, maxillary and mandibular hypoplasia and chin deviation

Operative

Broad spectrum antibiotic was given one shot of antimicrobial prophylaxis just before surgery after consultation of pediatric physician for calculating dose based on patient weight, All operations were carried out by general anaesthesia, Complete disinfection by bovidone iodine and toweling of surgical field, All patients were underwent marking important points of cleft lip marking: [Nadir of Cupid’s bow, Peak Cupid’s bow on noncleft and cleft sides, Wet–dry border on vermilion perpendicular to white roll marks, Midline columellar base, Height of philtral columns at columellar base, Alar base and injection of local anesthetic solution (xylocain, adrenaline 1/200000)]

Group A: was subjected to Millard technique in unilateral cleft lip repair [9].
After infiltration with 1 in 200,000 adrenaline solution, the cleft edges were incised. The frenum was divided. The rotation incision was made through the full thickness of the lip, and a back cut was done. One can assess the adequacy of the rotation by ensuring that the Cupid's bow point was level with its noncleft side counterpart. The vermillion was pared leaving behind a good cuff of orbicularis oris muscle to be used as a filler to avoid a notch. The skin and mucosa were undermined. On the cleft side, after paring the edge, the advancement incision was made hugging the base of the ala and limiting the lateral extent of the incision to the minimum necessary. The vermillion was pared, leaving behind a cuff of muscle as on the medial side. An extensive lateral subperiosteal mobilization was performed from the alveolar shelf inferiorly to the infraorbital foramen superiorly and from the zygomatic prominence laterally to the edge of the maxilla medially. The mucoperiosteal lining was dissected off the underlying maxilla, releasing any tethering effect in the pyriform area. With such an extensive mobilization, even the widest of clefts can be brought together without any tension. Medially, an incision was made over the septomaxillary junction, extending posteriorly to the vomer. Anteriorly, it connects with the frenular base incision. The mucoperichondrium was dissected off the underlying nasal septum; septal repositioning is done in all patients. The nasal floor was created by suturing the septal mucoperichondrium medially with the mucoperiosteum on the maxilla laterally. Anterior palate repair is done to the extent possible. Ideally, we would like to close it till the hard and soft palate junction. When there was a discrepancy anteroposteriorly at the alveolar shelf level, it can be minimized by performing an unequal Z plasty described by Jackson. More than one such Z plasty were needed when there was gross alveolar disparity.
The Millard's cinch suture was placed with a nonabsorbable suture anchoring the paranasal muscles on the cleft side to the nasal septum. However, of late, we have been anchoring it to the midline mucoperiosteum with 4-0 monocryl. The false attachments of the orbicularis oris muscle were detached; the muscle was released from the mucosa and skin, more on the lateral aspect than on the medial. Nonabsorbable 5-0 polypropylene sutures were used to approximate the muscle for long-term stability. These have not been found to be the nidus for any infection later.
Group B: was subjected to fisher technique in unilateral cleft lip repair [11].
The injection of marked landmarks could generate a tattooing effect in order to guarantee the effective preservation of landmarks during a surgical procedure. The redundant cleft marginal tissue was removed, and the medial segment was incised using a no. 15 blade. The orbicularis oris muscle was separated from the skin and mucosa by diminishing the skin on the medial segment, which is approximately 1 mm distal to the incision margin. A no. 15 blade was used to complete the incision on the lateral segment, and any excess marginal tissue was removed. The medial side was dissected in the same manner as the lateral element, which is located between the epidermis and muscle. In order to close the mucosal incision, Vicryl® 5-0 was implemented. At the alar base of the cleft sides, the anterior nasal spine was approximated to the inverted orbicularis oris muscle using a 4-0 PDS® technique. We used 5-0 Ethilon® to overlap and suture the orbicularis oris muscle. Vicryl® 5-0 was employed to perform the submucosal closure, and the medial and lateral lip flaps were approximated at the intersection of red vermilion and cutaneous roll. We used 6-0 Ethilon® to seal the epidermis. Vicryl® 6-0 was

employed to suture the upper vermilion membrane following its rotation. Vicryl® 5-0 was employed to secure the lips. Adrenaline 1/200000 epinephrine was administered to ameliorate postoperative distress during the administration of infraorbital nerve block anesthesia. Steri-strip® and antibiotic ointment were employed to apply the dressing. The Tajima and Maccomb sutures were employed in both techniques to perform primary rhinoplasty [12, 13].

Post-operative follows up

After recovery of anesthesia breast feeding was continued with use of safe local antiseptic to surgical suture wound, after 12 hours from recovery of anesthesia lab assessment of blood hemoglobin and hematocrit was done, discharges of patients were when breast feeding and post-operative hemostasis was secured and the patients were followed in pediatric surgery outpatient clinic at Benha university hospital.

Functional assessment

The baby weight growth was monitored at 3 months post-operative and 6 months post-operative and was compared with preoperative weight to assess efficacy of suckling power.

Aesthetic assessment

Post-operative scar assessment was done at 6 months post-operative using vancouver scar scale (VSC), and visual analog scale (VAS).

The multidimensional VAS was a scale that was developed by evaluating standardized digital photographs in four dimensions (pigmentation, vascularity, acceptability, and observer comfort) in conjunction with contour; it was based on photographs. To generate a single, comprehensive score that spans from "excellent" to "poor," the sum of the individual scores is computed."[14] and vancouver scar scale: It assesses 4 variables: vascularity, height/thickness, pliability, and pigmentation.

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Statistical analysis

All statistical analyses were performed using IBM SPSS Statistics for Windows, Version 28.0 (IBM Corp., Armonk, NY, USA). The Shapiro–Wilk test and histograms were used to assess the normality of data distribution. Quantitative parametric data were presented as mean ± standard deviation (SD) and compared using the unpaired Student's t-test. For paired samples, the paired t-test was employed to compare means. Categorical variables were analyzed using the Chi-square test or Fisher's exact test, as appropriate. Data were expressed as frequencies and percentages. A *p*-value < 0.05 was considered statistically significant.

Results

There was an insignificant difference between both groups regarding demographic data (age and sex), cleft type and side **(Table 1)**

In group A (Millard technique), the postoperative lip height was significantly increased compared to preoperative lip height (P<0.001). There was an insignificant difference between preoperative and postoperative lip width, vermilion height, alar base, nostril height and width. In group B (Fisher technique), the postoperative lip height, vermilion height and nostril height were significantly higher compared to preoperative height (*P*<0.001, <0.001, <0.001). There was an insignificant difference between preoperative and postoperative lip width, alar base and nostril width. (**Table 2)**

The postoperative lip height, vermilion height and nostril height were significantly higher in group B compared to group A (*P*<0.001, <0.001, <0.001), whereas the postoperative nostril width was significantly lower in group B compared to group A (*P*=0.002). There was an insignificant difference between both groups regarding the preoperative lip height, pre- and postoperative lip width, preoperative vermilion height, pre- and

postoperative alar base, preoperative nostril height and width. (**Table 3)**
Regarding the aesthetic outcome, postoperative VSS was significantly lower (better) in group B compared to group A (*P*<0.001). Regarding the Steffensen's grading criteria, although the good outcome was more prevalent in group B (Fisher technique) compared to group A (Millard technique), but with no significant difference between groups. There was an insignificant difference between both groups regarding the patient's satisfaction regarding scar quality, despite higher satisfaction was highly observed in group B (Fisher technique) compared to group A (Millard technique). (**Table 4)**

Table 1: Demographic data, cleft type and side of the studied groups

		Group A (Millard technique) (n=10)	Group B (Fisher technique) (n=10)	*P* value
Age (months)	**Mean± SD**	4.6± 1.26	4.3± 0.95	0.556
	Range	3-6	3-5	
Sex	**Male**	8 (80%)	7 (70%)	0.605
	Female	2 (20%)	3 (30%)	
Cleft type	**Incomplete**	4 (40%)	3 (30%)	0.639
	Complete	6 (60%)	7 (70%)	
Side	**Right**	5 (50%)	4 (40%)	0.653
	Left	5 (50%)	6 (60%)	

Table 2: Anthropometric measurements of the group A (Millard technique) and the group B (Fisher technique)

		Group A (Millard technique) (n=10)		P value
		Preoperative	**Postoperative**	
Lip height (cm)	**Mean± SD**	0.70± 0.07	0.93± 0.07	**<0.001***
	Range	0.58-0.8	0.86-1.05	
Lip width (cm)	**Mean± SD**	0.94± 0.03	0.95± 0.07	0.569
	Range	0.88-0.98	0.87-1.07	
Vermilion height (mm)	**Mean± SD**	0.86± 0.04	0.90± 0.04	0.073
	Range	0.82-0.92	0.82-0.95	
Alar base (mm)	**Mean± SD**	1.05± 0.29	1.13± 0.36	0.594
	Range	0.61-1.56	0.38-1.52	
Nostril height (mm)	**Mean± SD**	0.79± 0.04	0.82± 0.06	0.101
	Range	0.71-0.84	0.76-0.9	
Nostril width (mm)	**Mean± SD**	1.30± 0.12	1.34± 0.08	0.346
	Range	1.17-1.5	1.2-1.42	
		Group B (Fisher technique) (n=10)		
Lip height (cm)	**Mean± SD**	0.74± 0.09	1.09± 0.08	**<0.001***
	Range	0.62-0.86	0.97-1.19	
Lip width (cm)	**Mean± SD**	0.94± 0.06	0.98± 0.08	0.318
	Range	0.87-1.03	0.88-1.09	
Vermilion height (mm)	**Mean± SD**	0.89± 0.03	1.06± 0.09	**<0.001***
	Range	0.85-0.94	0.9-1.17	
Alar base (mm)	**Mean± SD**	1.08± 0.32	1± 0.56	0.724
	Range	0.43-1.42	0.4-1.73	
Nostril height (mm)	**Mean± SD**	0.76± 0.05	0.96± 0.05	**<0.001***
	Range	0.7-0.83	0.9-1.04	
Nostril width (mm)	**Mean± SD**	1.29± 0.08	1.22± 0.07	0.068
	Range	1.18-1.42	1.1-1.3	

*: Statistically significant P value <0.05

Table 3: Anthropometric measurements of the studied groups

			Group A (Millard technique) (n=10)	Group B (Fisher technique) (n=10)	P value
Lip height (cm)	**Preoperative**	**Mean± SD**	0.70± 0.07	0.74± 0.09	0.312
		Range	0.58-0.8	0.62-0.86	
	Postoperative	**Mean± SD**	0.93± 0.07	1.09± 0.08	**<0.001***
		Range	0.86-1.05	0.97-1.19	
Lip width (cm)	**Preoperative**	**Mean± SD**	0.94± 0.03	0.94± 0.06	0.676
		Range	0.88-0.98	0.87-1.03	
	Postoperative	**Mean± SD**	0.95± 0.07	0.98± 0.08	0.467
		Range	0.87-1.07	0.88-1.09	
Vermilion height (mm)	**Preoperative**	**Mean± SD**	0.86± 0.04	0.89± 0.03	0.074
		Range	0.82-0.92	0.85-0.94	
	Postoperative	**Mean± SD**	0.9± 0.04	1.06± 0.09	**<0.001***
		Range	0.82-0.95	0.9-1.17	
Alar base (mm)	**Preoperative**	**Mean± SD**	1.05± 0.29	1.08± 0.32	0.839
		Range	0.61-1.56	0.43-1.42	
	Postoperative	**Mean± SD**	1.13± 0.36	1± 0.56	0.562
		Range	0.38-1.52	0.4-1.73	
Nostril height (mm)	**Preoperative**	**Mean± SD**	0.79± 0.04	0.76± 0.05	0.159
		Range	0.71-0.84	0.7-0.83	
	Postoperative	**Mean± SD**	0.82± 0.06	0.96± 0.05	**<0.001***
		Range	0.76-0.9	0.9-1.04	
Nostril width (mm)	**Preoperative**	**Mean± SD**	1.3± 0.12	1.29± 0.08	0.819
		Range	1.17-1.5	1.18-1.42	
	Postoperative	**Mean± SD**	1.34± 0.08	1.22± 0.07	**0.002***
		Range	1.2-1.42	1.1-1.3	

*: Statistically significant P value <0.05

Table 4: Postoperative aesthetic assessment by vancouver scar scale (VSS), outcome according to Steffensen's grading criteria and patients satisfaction regarding scar quality of the studied groups

		Group A (Millard technique) (n=10)	Group B (Fisher technique) (n=10)	P value
VSS	**Mean± SD**	5.6± 0.7	3.5± 0.53	**<0.001***
	Range	5-7	3-4	
Outcome	**Cutaneous roll symmetry**	6 (60%)	9 (90%)	0.303
	Vermilion symmetry	5 (50%)	8 (80%)	0.349
	Nostril symmetry	6 (60%)	7 (70%)	0.639
	Cupid's bow symmetry	6 (60%)	9 (90%)	0.303
	Alar dome symmetry	5 (50%)	6 (60%)	0.653
	Alar base symmetry	6 (60%)	8 (80%)	0.329
Patients' satisfaction	**Excellent**	4 (40%)	7 (70%)	0.478
	Good	4 (40%)	2 (20%)	
	Fair	1 (10%)	1 (10%)	
	Poor	1 (10%)	0 (0%)	

VSS: Vancouver scar scale, *: Statistically significant P value <0.05

Discussion

In group A (Millard technique), the postoperative lip height was significantly increased compared to preoperative lip height (P<0.001). There was an

insignificant difference between preoperative and postoperative lip width, vermilion height, alar base, nostril height and width.

These results are in agreement with Abdullateef et al., [15] who found in 34 patients with unilateral cleft lip underwent Milard technique, greater increases in post-operative horizontal lip length and vertical lip height were observed (P<0.001).

In group B (Fisher technique), the postoperative lip height, vermilion height and nostril were significantly higher compared to preoperative height (P<0.001, <0.001, <0.001). There was an insignificant difference between preoperative and postoperative lip width, alar base and nostril width.

Similar, Saeed et al.,[16] primary unilateral incomplete cleft lip, as reported in 50 consecutive patients. The anthropometric parameters (vertical lip height, vermilion height, nostril breadth, and nostril height) all showed significant improvement, except for lip width. Except for the nasal height ratio (p-value=0.071), all parameters demonstrated a significant symmetry (p-value less than 0.05). In accordance with Steffensen's criteria, all parameters yielded satisfactory results.

In our study, group B exhibited significantly higher postoperative lip height, vermilion height, and nostril height than group A (P<0.001, <0.001, <0.001), while group B exhibited significantly lower postoperative nostril width than group A (P=0.002).

El-Maghraby et al., [17] The Millard rotational advancement method and the Fisher anatomical subunit approximation technique were tested in the context of unilateral cleft lip repair. There were twenty cases that were examined and repaired using each method. In comparison to the Millard category, the Fisher category exhibited significantly higher lip height, vermilion height, and alar base length. However, there was no significant difference in lip breadth.

Further, Gaber et al., [18] 30 cases of unilateral cleft lip and palate that were admitted to the Plastic Surgery Department at Qena University Hospital were the subject of a prospective, randomized controlled study from May 2021 to April 2022.The Mohler and Fisher groups were the two categories into which the cases were divided. The research was conducted over a period of one year. Mohler was associated with the Fisher category, which had higher lip and vermilion heights, according to their notification.

In terms of the aesthetic outcome, group B exhibited a significantly lesser (superior) postoperative VSS than group A (P<0.001). The Steffensen grading criteria revealed that group B (Fisher technique) had a higher prevalence of favorable outcomes than group A (Millard technique). However, there was no statistically significant difference between the two groups.

Gaber et al., [18] They corroborated our findings that the Fisher group had a higher frequency of outstanding aesthetic outcomes than the Mohler group in their evaluation of patient satisfaction between the two groups. Additionally, Saeed et al., [16] They were supportive of our position, as they stated that Fisher anatomical subunit repair is a reliable alternative for unilateral incomplete cleft lip correction that offers aesthetically pleasing outcomes. Furthermore, The grading criteria established by Steffensen, Patel et al., [19] They were supportive of our position, as they stated that Fisher anatomical subunit repair is a reliable alternative for unilateral incomplete cleft lip correction that yields aesthetically pleasing outcomes. Although the Fisher group had a lower incidence of negative outcomes than the Mohler group, there was no statistically significant difference. The Fisher anatomical subunit method may yield more dependable results, irrespective of the severity of the

fissure, when quantitative results are assessed, according to his observations.

Moreover, study by Deshmukh et al [20] , which encompassed 50 cases of unilateral cleft lip with or without cleft palate. It was subsequently decided to randomly designate each case that was evaluated to one of two lip repair techniques. The Fisher approach and Mohler technique categories did not exhibit any significant differences in terms of the extent of the fissure, gender, side, or years old, as reported by the research. Fisher's restoration improved the postoperative aesthetic outcomes in comparison to the immediate postoperative cosmetic outcomes.

Added to that, Kwong et al. [21] The Fisher, Mohler, and Millard procedures for unilateral cleft lip repair surgery were compared in 2019 using eye-tracking technology. Fisher's repair was the most visually enticing, followed by Mohler and Millard techniques, as indicated by the results. The Fisher procedure for cleft lip repair has been shown to produce superior cosmetic results in our previous research. This viewpoint is additionally reinforced by this discovery.

Also, Suchyta et al. [22] reported that the Fisher group had a higher level of patient satisfaction than both the Mohler and Millard techniques. General appearance, satisfaction with surgical outcome, and nose symmetry were not statistically significantly different among repair organizations. Compared to the Millard and Mohler procedures, Fisher restoration yielded the most favorable aesthetic outcomes, particularly in terms of scar severity.

Elbanoby et al. [23] In cases of unilateral cleft lip repair, the Steffensen criteria were employed to ascertain that the Fisher Anatomical Subunit approach was associated with more favorable outcomes and fewer adverse ones. Nevertheless, the general did not exhibit any discernible variation.

Concerning the results, there was an insignificant difference between both groups regarding the patient's satisfaction regarding scar quality, despite higher satisfaction was highly observed in group B (Fisher technique) compared to group A (Millard technique).

In accordance to our study, Pradnyandari al., [24] informed that Fisher's technique yielded superior cosmetic outcomes in comparison to Millard's in terms of surgical scarring

Moreover, ElMaghraby et al., [17] According to their research, the scar presence was satisfactory in ninety percent of cases in Fisher's group and sixty-five percent in Millard's group, as per Steffensen's grading criteria. However, the Fisher group experienced a lower prevalence of unsatisfactory outcomes than the Millard group. According to their assessment, Fisher's methodology was preferable to Millard's methodology.

Alongside with our study, Shah et al., [25] observed scar severity was least severe with Fisher and most severe with Millard and Mohler.

Limitations were relatively small sample size inevitably lowered the statistical power of the analysis and Single-center study making the results less generalizable.

Conclusion

According to the Steffensen criteria, the Fisher anatomical subunit approach resulted in more favorable outcomes and fewer adverse ones in unilateral cleft lip repair cases than the Millard technique. Nevertheless, the incisions could not be distinguished from one another in terms of their general appearance.

In order to achieve more precise results, it is recommended that additional investigations be conducted with a larger and stratified sample size and a multi-center study. The Fisher anatomical subunit approximation method is preferable to the Mohler rotational progression method in terms of scar

outcomes, and we suggest its use for unilateral cleft lip repair. Fisher's technique significantly outperformed Mohler's repair in terms of overall efficacy, despite the fact that both procedures demonstrated clinically acceptable postoperative aesthetics.

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Conflicts of interest

No conflicts of interest

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