MANEJO DE CICATRICES DE ACNÉ CON TÉCNICA CROSS

Jimena Peña García
Dermatóloga
Universidad Nacional de Colombia

Técnica CROSS (Chemical Reconstruction Of Skin Scars)

- Descrita en 2002 por Jung Lee en la *Yonsei University College of Medicine*, Seoul, Korea.

Focal Treatment of Acne Scars With Trichloroacetic Acid: Chemical Reconstruction of Skin Scars Method

JUNG BOCK LEE, MD,* WOO GIL CHUNG, MD,† HO KWAHCK, MD,* AND KWANG HOON LEE, MD†

Leejiham Skin Clinic and †Department of Dermatology, Yonsei University College of Medicine, Seoul, Korea

Dermatol Surg 2002;28:1017–1021

Técnica CROSS

Aplicación de ácido tricloroacético (ATA) en la piel causa precipitación de proteínas y necrosis por coagulación de las células en la epidermis y del colágeno de la dermis papilar, con reepitalización en los días posteriores.

Altas concentraciones > efectos adversos y cicatrices. No se recomienda como peeling medio-profundo en toda la cara.

Proponen que focalmente en cicatrices deprimidas puede ser últil, haciendo presión con un aplicador fino, concentraciones de 65-100%.

Técnica CROSS

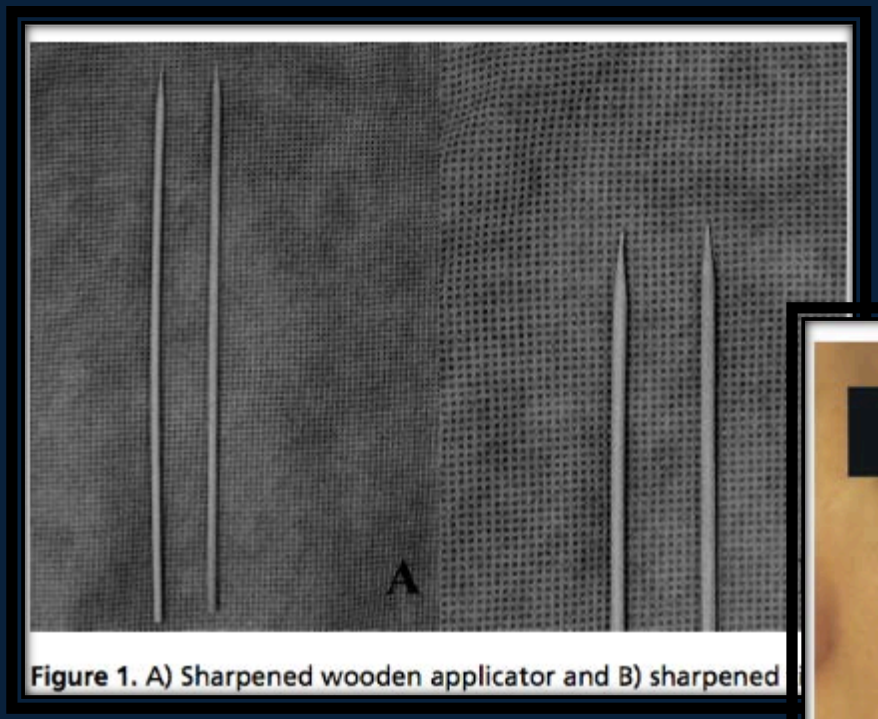


Figure 1. A) Sharpened wooden applicator and B) sharpened

Figure 2. CROSS method: A) before and B) shortly after the procedure.

Técnica CROSS

La técnica se enfoca en el engrosamiento dérmico y la producción de colágeno estimulada por altas concentraciones de ATA

La cicatrización es más rápida y con menos complicaciones que la aplicación global de ATA, por que el tejido adyacente normal se preserva así como las estructuras anexiales perilesionales.

Los autores han utilizado esta técnica 10 años antes de su publicación con éxito. Objetivo estudio: evaluar efectos clínicos en pctes con piel oscura

Materiales y métodos

65 pacientes con cicatrices atróficas. Julio 1996 – Julio 2001. Edad 2-.45 años, fototipo IV-V.

Aplicación focal de ATA 65% (33 pctes)-100% (32 pctes)

2 investigadores cegados, evaluaron fotografías al inicio y 6 meses después: resultados como excelente > 70%, bueno 50-70%, moderado 30-50%, pobre > 30%

Se evaluaban complicaciones: eritema persistente, hiperpigmentación persistente, hipopigmentación, exacerbación herpes simple, cicatriz, queloides.

Materiales y métodos

No se necesitó anestésico. Limpieza de la piel con alcohol

Se aplicó el ATA con un aplicador haciendo presión sobre la cicatriz, frosting posterior con un única aplicación

Posterior: crema antibiótica e hidratante hasta la formación de costras, después ningún tratamiento.

1-2 sems después: crema con ac retinoico 0.05% - 5% hidroquinona en algunos pctes por 4 semanas. Se permitía aplicación de maquillaje

Se realizaba nueva sesión cada 1-3 meses.

Table 1. Effectiveness of the CROSS Method on the Treatment of Acne Scars according to the Number of Courses

	Number of Courses				
Effects of CROSS	*3*	*4*	*5*	*6*	*No. of patients*
65% TCA					
Excellent	1 (20)	1 (13)	2 (40)	8 (53)	12 (36)
Good	1 (20)	4 (50)	3 (60)	7 (47)	15 (46)
Fair	2 (40)	1 (13)			3 (9)
Poor	1 (20)	2 (25)			3 (9)
Total	5	8	5	15	33
100% TCA					
Excellent	7 (41)	5 (63)	2 (100)	5 (100)	19 (59)
Good	8 (47)	3 (38)			11 (34)
Fair	2 (12)				2 (6)
Poor					0 (0)
Total	17	8	2	5	32

Percentages are in parentheses.
Excellent, more than 70% of the lesions disappeared; good, 50–70% of the lesions disappeared; fair, 30–50% of the lesions disappeared; poor, less than 30% of the lesions disappeared.

82%

93%

Complicaciones

Ningún caso de complicación significativa

No diferencia de efectos secundarios en los 2 grupos

Eritema leve (2- 8 sems) e hiperpigmentación posinflamatoria (6 sems)

Erupción pustulosa leve en 4 pctes resolvió con cefadroxilo 500 3v/día por 1 sem.

2 pctes con isotretinoina 3 meses antes del tto tuvieron buenos resultados sin alteración en la cicatrización

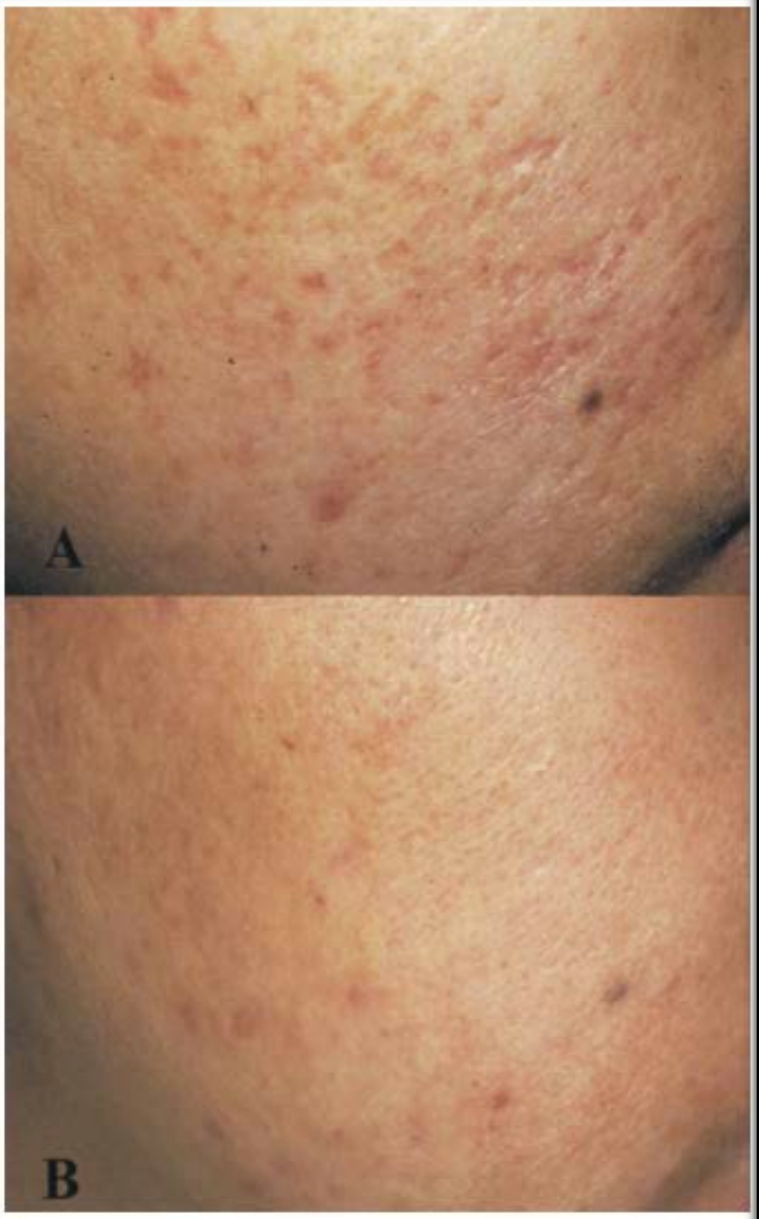


Figure 3. CROSS of the cheek with 65% TCA A) before and B) after three courses of treatment.

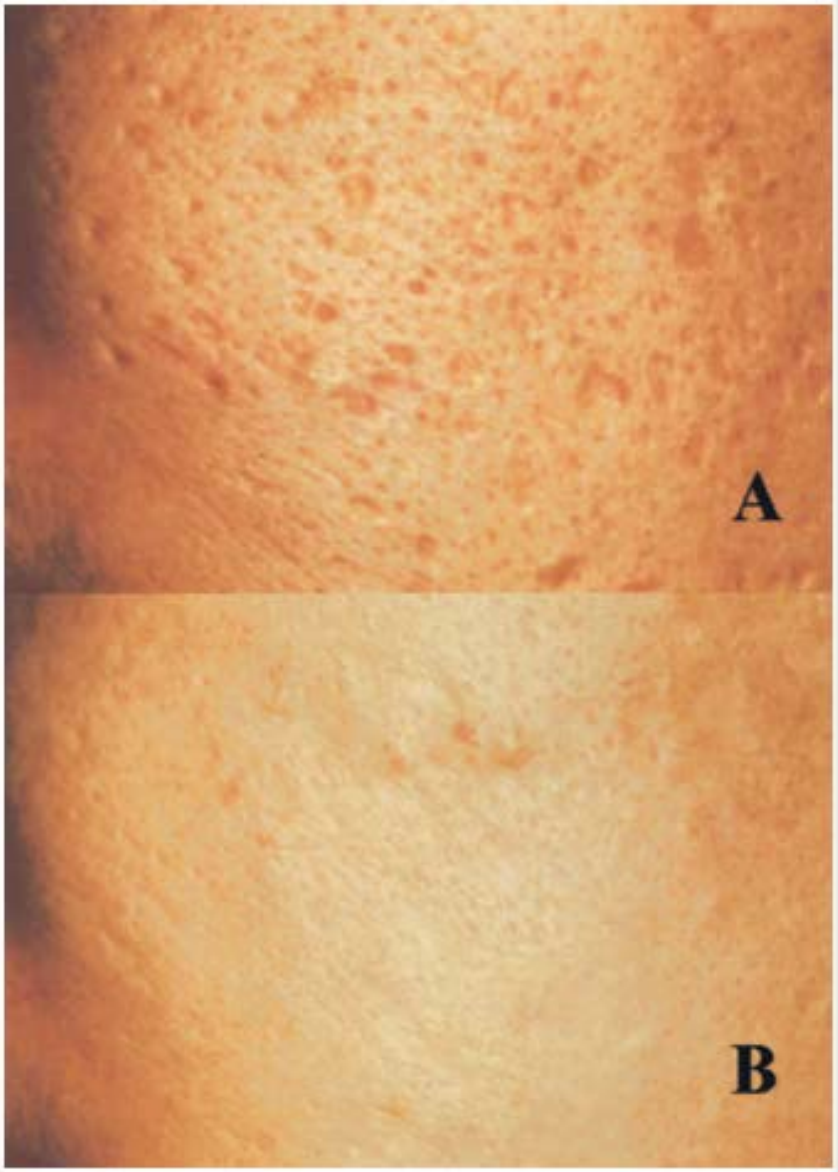


Figure 4. CROSS of the cheek with 100% TCA A) before and B) after six courses of treatment.

Resultados

Table 2. Satisfaction Rates With the CROSS Method for the Treatment of Acne Scars

Grade of satisfaction	*TCA Concentration*		*No. of patients*
	65% TCA	*100% TCA*	
Absolutely	16 (49)	19 (59)	35 (54)
Moderately	11 (33)	11 (34)	22 (34)
Not at all	6 (18)	2 (6)	8 (12)
Total	33	32	65

Percentages in parentheses.
Absolutely, satisfaction rate more than 70%; moderately, satisfaction rate 50–70%; not at all, satisfaction rate less than 50%.

Efectos histológicos

ORIGINAL ARTICLE

Histometric and Histochemical Analysis of the Effect of Trichloroacetic Acid Concentration in the Chemical Reconstruction of Skin Scars Method

Sung Bin Cho, MD,* Chang Ook Park, MD,* Woo Gil Chung, MD,*
Kwang Hoon Lee, MD, PhD,* Jung Bock Lee, MD, PhD,†
and Kee Yang Chung, MD, PhD*

Dermatol Surg 2006;32:1231–1236

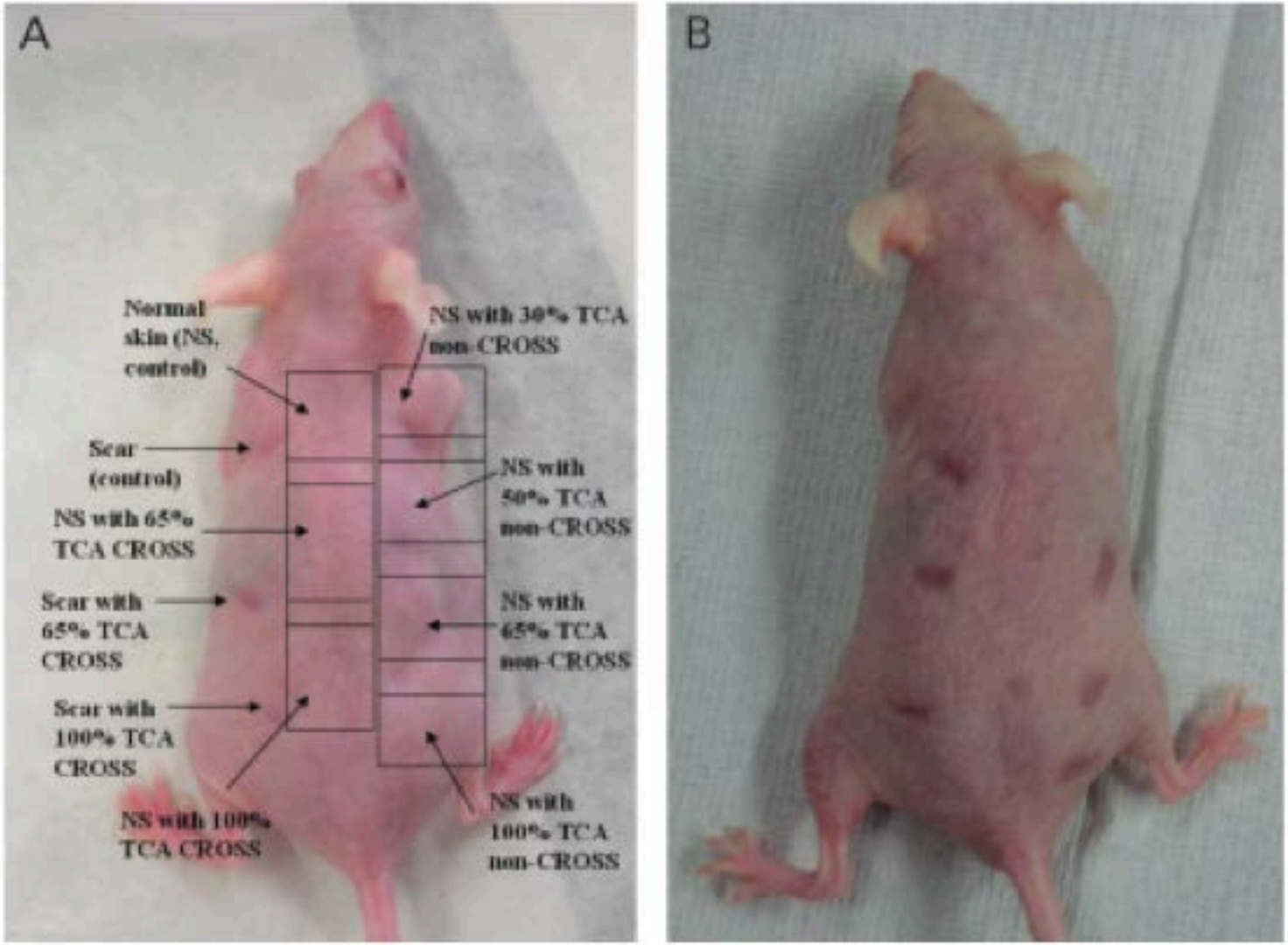


Figure 1. (A) Schematic view of application methods using various concentrations of TCA. (B) Six weeks after the TCA peels.

TABLE 1. Mean Thickness of Epidermis and Dermis

Application Method:	*No Treatment*		*TCA CROSS*				*Simple Application of TCA*			
Concentration of TCA:	*Normal Skin*	*Scar*	*65% Scar*	*100% Scar*	*65% Normal Skin*	*100% Normal Skin*	*30% Normal Skin*	*50% Normal Skin*	*65% Normal Skin*	*100% Normal Skin*
Mean epidermal thickness (μm)	24.3 ± 5.4	26.9 ± 5.1	38.8 ± 3.7	42.8 ± 23.6	44.6 ± 12.8	46.6 ± 11.6	25.1 ± 2.6	31.1 ± 9.5	33.0 ± 7.0	32.1 ± 2.8
Mean dermal thickness (μm)	201.8 ± 48.9	224.4 ± 37.6	422.1 ± 190.0	440.0 ± 200.9	384.5 ± 73.7	404.1 ± 171.3	197.7 ± 51.6	286.3 ± 62.2	261.5 ± 110.3	281.2 ± 56.2

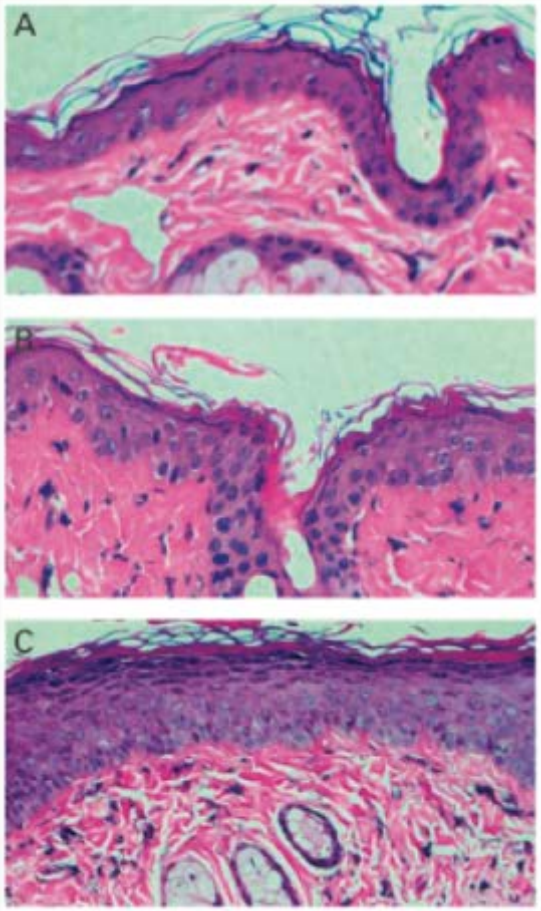


Figure 2. (A) Epidermis from untreated scar (hematoxylin and eosin, × 200). (B) Epidermis from the scar treated by the CROSS method using 65% TCA (hematoxylin and eosin, × 200). (C) Epidermis from the scar treated by the CROSS method using 100% TCA (hematoxylin and eosin, × 100).

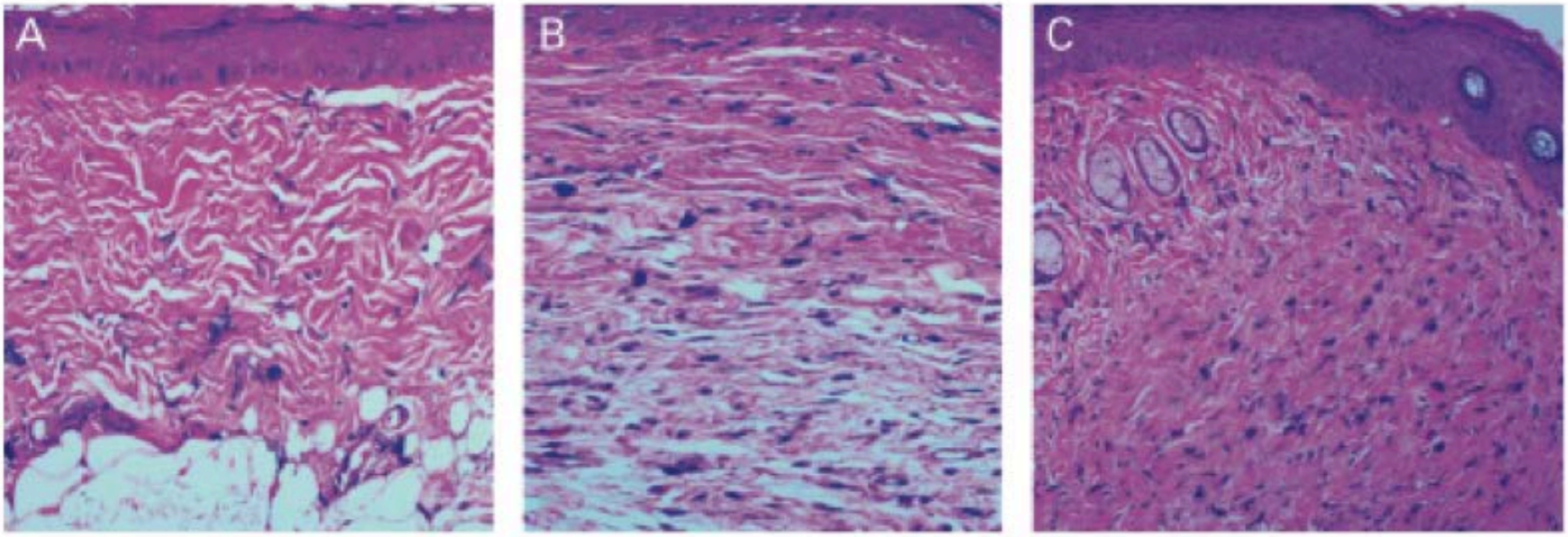


Figure 3. (A) Dermis from untreated scar (hematoxylin and eosin, ×200). (B) Dermis from the scar treated by the CROSS method using 65% TCA (hematoxylin and eosin, ×200). (C) Dermis from the scar treated by the CROSS method using 100% TCA (hematoxylin and eosin, ×100).

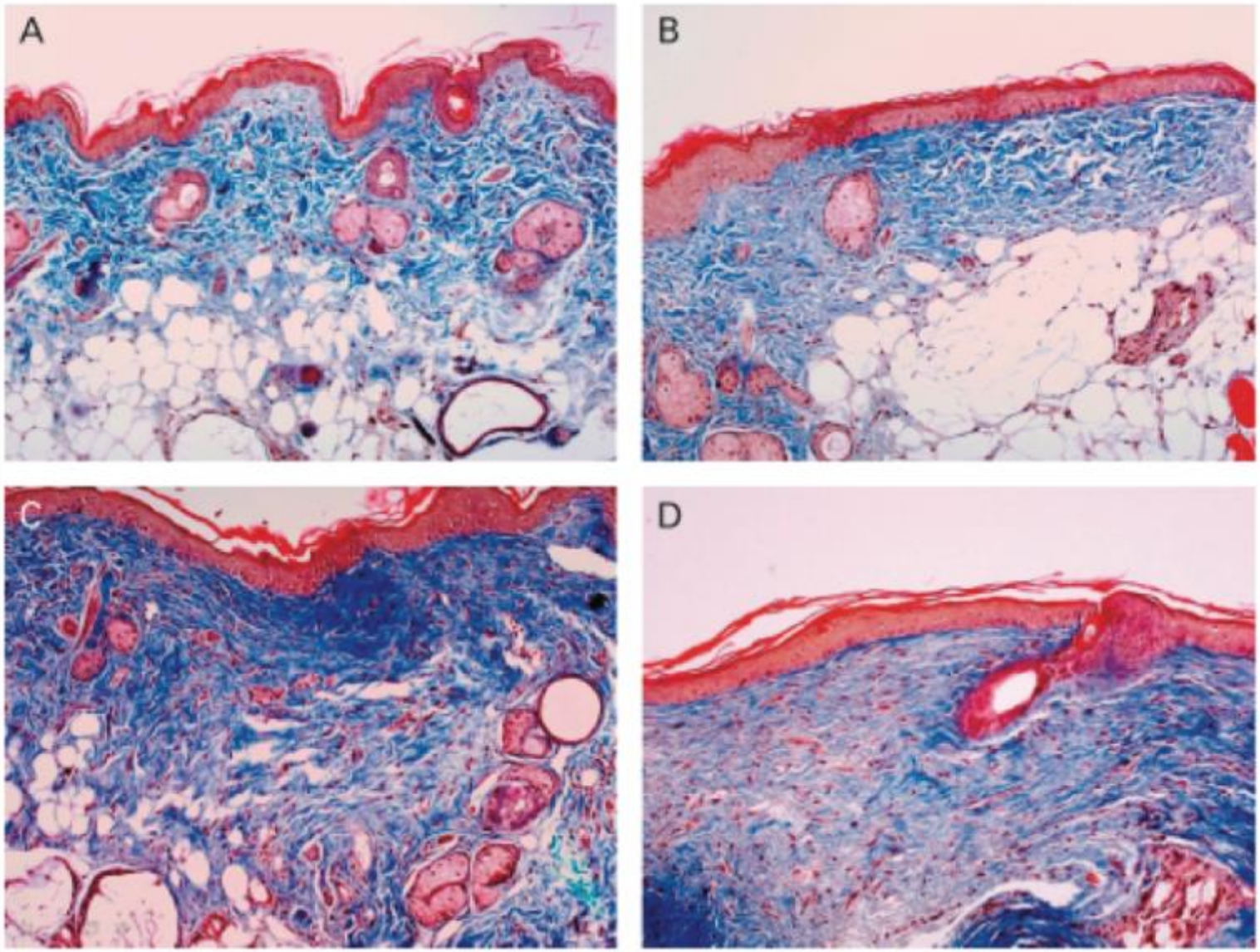


Figure 4. Histologic pictures with Masson's trichrome stain (× 100). (A) Untreated normal skin; (B) untreated scar; (C) scar treated by the CROSS method using 100% TCA; (D) normal skin treated by simple application of 65% TCA.

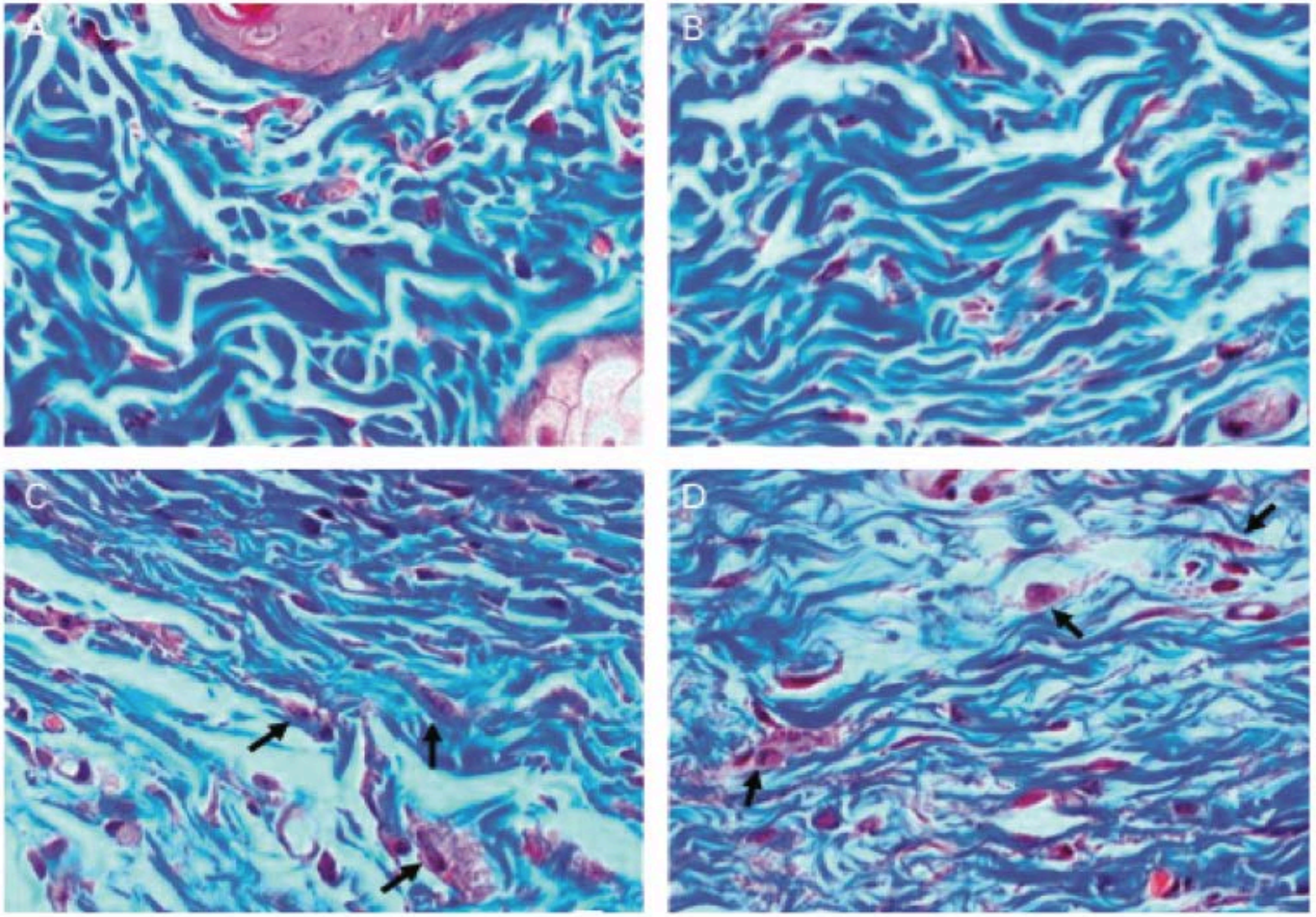


Figure 5. Morphologic changes of the fibroblasts in the dermis (Masson's trichrome stain, × 400). (A) Untreated normal skin; (B) untreated scar; (C) scar treated by the CROSS method using 100% TCA; (D) normal skin treated by simple application of 65% TCA. Arrows indicate elongated and spindle-shaped fibroblasts seen in TCA-treated skin.

Therapeutic Response of 70% Trichloroacetic Acid CROSS in Atrophic Acne Scars

Nidheesh Agarwal, MD,* Lalit K. Gupta, MD,† Ashok Kumar Khare, MD,†
C. M. Kuldeep, MD,‡ and Asit Mittal, MD†

Dermatol Surg 2015;41:597–604

Métodos

Adolescentes y adultos jóvenes con cicatrices de acné de un servicio de consulta externa de dermatología.

Criterios de exclusión: hª de herpes simple, queloides, acné activo, procedimiento con láser en los 2 años previos.

Lavado con alcohol y posterior aplicación focal de ATA al 70% en cicatrices (boxcar, picahielo y rolling).

Métodos

Aplicación de protector solar y después de que se cayeran las costras crema de hidroquinona al 2% en la noche.

Sesiones cada 2 semanas por 4 sesiones, se valoraron al inicio y cada mes por 3 meses

Escala de mejoría: pobre (0-25%), leve (26-50%), buena (51-75%) y excelente > 75%.
Paciente: satisfecho y no satisfecho

Métodos

TABLE 1. Demographic and Clinical Profile of patients (n = 53)

Age, years	15–24	≥25
n (%)	43 (81.1)	10 (18.9)
Mean age, years	21.7 ± 3.1	
Range, years	16–29	
Sex, n (%)		
Males	33 (62.3%)	
Females	20 (37.7%)	
Duration, years	<2	≥2
n (%)	18 (34)	35 (66)
Range	6 months–8 years	
Fitzpatrick skin type, n (%)		
IV	19 (35.8)	
V	34 (64.2)	
Predominant scar type, n (%)		
Ice pick	20 (37.8)	
Rolling	21 (39.6)	
Boxcar	12 (22.6)	

Resultados

TABLE 2. Therapeutic Efficacy Assessed on Various Parameters (n = 53)

Physician assessment	Poor (0%–25%)	Fair (26%–50%)	Good (51%–75%)	Excellent (>75%)
n (%)	8 (15.1%)	10 (18.9%)	23 (43.4%)	12 (22.6%)
Patient assessment	Poor (0%–25%)	Fair (26%–50%)	Good (51%–75%)	Excellent (>75%)
n (%)	0 (0%)	18 (34%)	29 (54.7%)	6 (11.3%)
Patient satisfaction	Not satisfied	Satisfied	Very satisfied	
n (%)	10 (18.9%)	30 (56.6%)	13 (24.5%)	

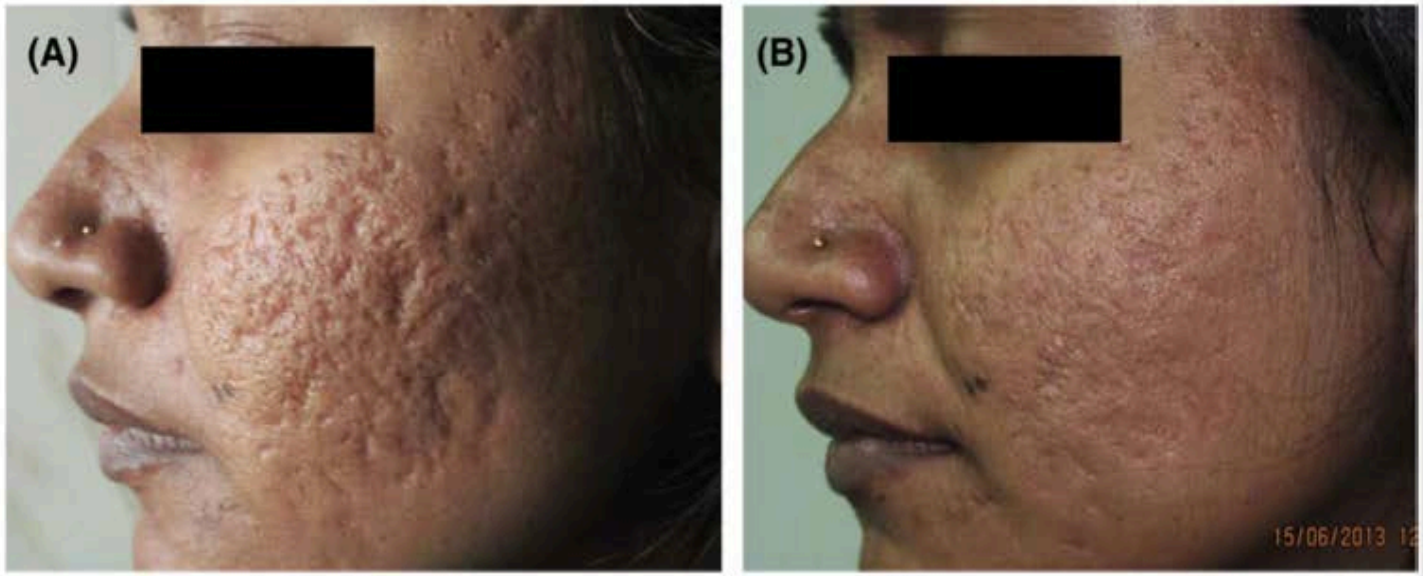


Figure 1. Excellent improvement, before (A) and after (B) treatment.

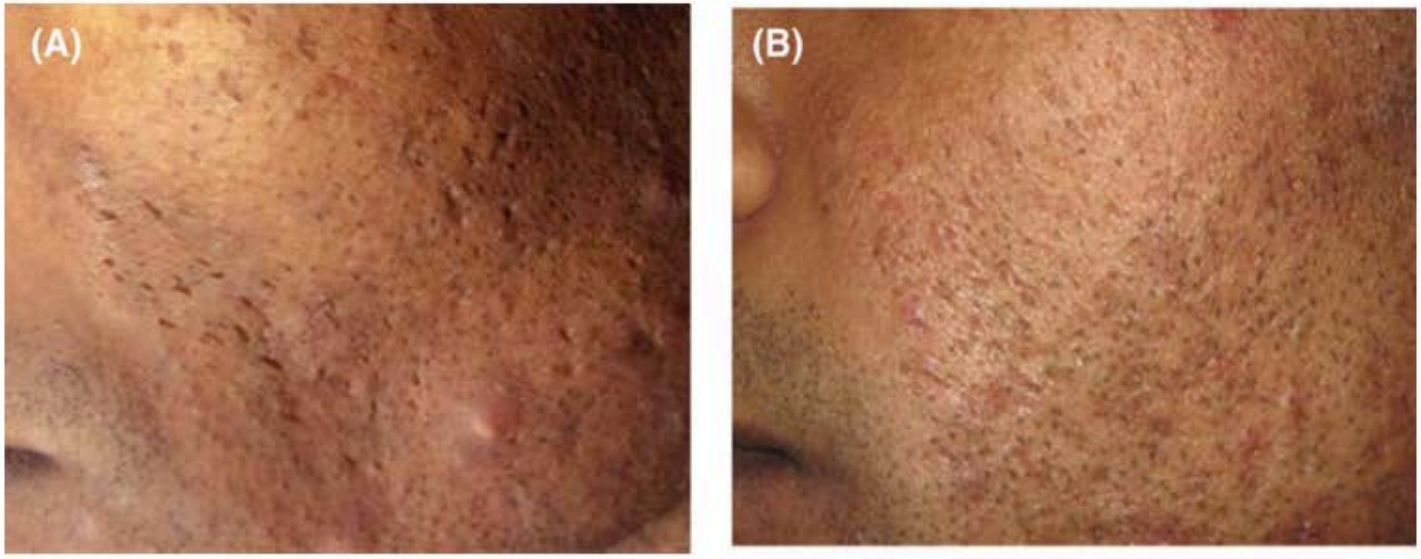


Figure 2. Excellent improvement, before (A) and after (B) treatment.

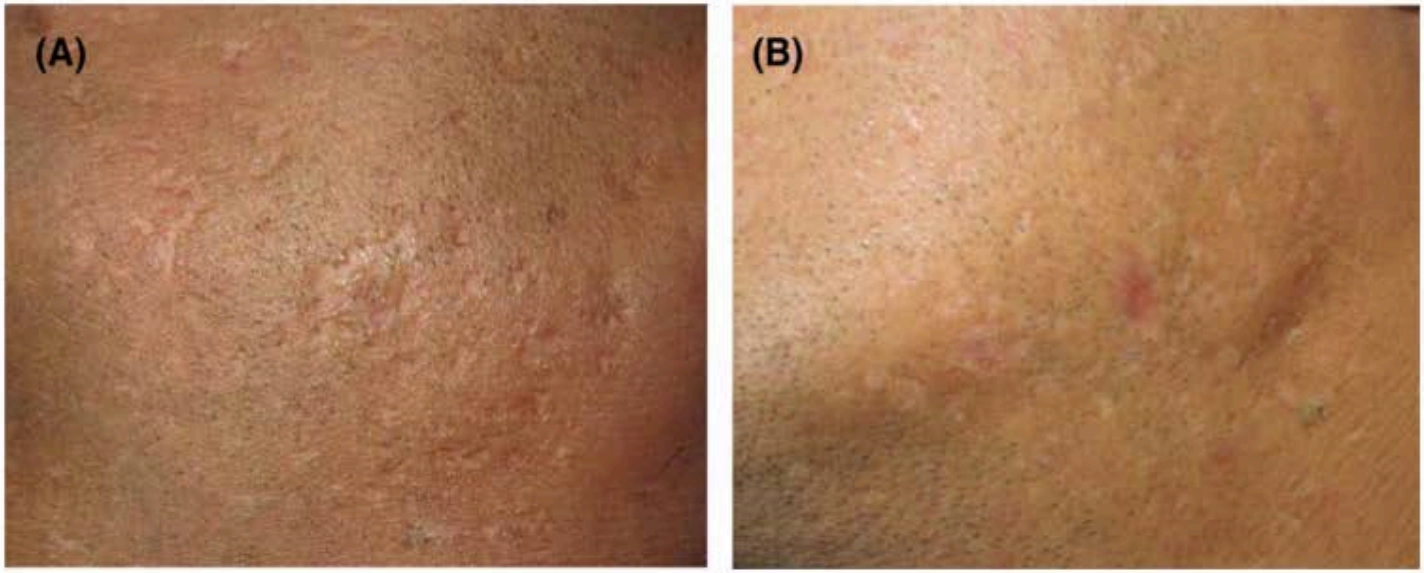


Figure 3. Good improvement, before (A) and after (B) treatment.

TABLE 3. Comparison of Different Studies of TCA CROSS in Acne Scars

Parameters	*Lee and colleagues*[4]	*Lee and colleagues*[4]	*Fabbrocini and colleagues*[18]	*Kim and colleagues*[15]	*Bhardwaj and Khunger*[12]
Number of patients	33	32	5	8	10
Skin type	IV-V	IV-V	III	IV-V	IV-V
Types of scars	All acne scars	All acne scars	Not mentioned	Ice pick	Ice pick, Rolling
Concentration of TCA, %	65	100	50	100	100
Frequency of application	1–3 months	1–3 months	1 months	3 months	2 weeks
Number of treatments	3–6	3–6	3	2	4
Results	82% of patients had good or excellent results	94% of patients had good or excellent clinical response	Improved, details not mentioned	Results comparable with erbium: glass laser in ice pick scars	100% of patients had good or excellent results
Persistent PIH	None	None	None	Not mentioned	10%
Other significant complications	None	None	None	None	None

Parameters	*Khunger and colleagues*[13]	*Leheta and colleagues*[17]	*Ramadan and colleagues*[14]	*This Study*
Number of patients	30	12	20	53
Skin type	IV-V	II-IV	III-IV	IV-V
Types of scars	Ice pick acne scars	All acne scars	Rolling acne scars	All acne scars
Concentration of TCA, %	100	100	100	70
Frequency of application	2 weeks	1 months	—	2 weeks
Number of treatments	4	4	1	4
Results	93.3% of patients had good or excellent results	91.3% of patients had moderate or good improvement, comparable with PCI	100% of scars improved. Subcision had greater decrease in the depth of scars than CROSS	66% of patients had good or excellent improvement
Persistent PIH	6.7%	None	15%	15.1%
Other significant complications	None	None	None	Coalescence of adjacent scars

Master Case Presentation

Evaluation of CROSS technique with 100% TCA in the management of ice pick acne scars in darker skin types

Niti Khunger, MD, DDV, DNB,[1] Deepali Bhardwaj, DVD,[1] & Monica Khunger, MBBS (Second year)[2]

[1]*Department of Dermatology & STD, VM Medical College & Safdarjang Hospital, New Delhi, India*
[2]*All India Institute of Medical Sciences, New Delhi, India*

 • *Journal of Cosmetic Dermatology*, **10**, 51–57

Métodos

30 pctes con cicatrices en picahielo (fototipos IV y V), tto ATA 100% técnica CROSS.

Pretto: hidroquinona 4% am y ac retinoico 0.025% en la noche, protector solar.

Aplicación ATA cada 2 semanas por 4 sesiones

Figure 2 Chemical reconstruction of skin scars technique- Application of 100% TCA with a wooden toothpick by stretching the skin and pressing hard to the bottom of the scar.

Table 1 Acne scar severity index

Severity of scars	Total number of ice pick scars
Mild	1–25
Moderate	26–50
Severe	>50

Figure 3 Frosting, mild edema, and erythema immediately after application of TCA followed by improvement of postacne scars.

Figure 4 Marked improvement of ice pick acne scars following four sessions of chemical reconstruction of skin scars technique at two weekly intervals in type IV skin.

Figure 5 Hypopigmentation following the chemical reconstruction of skin scars technique after premature removal of crusts.

Table 2 Results of treatment with100% TCA chemical reconstruction of skin scars technique

Interpretation	Improvement (%)	No. of patients *N* = 30	Mild *N* = 7	Moderate *N* = 11	Severe *N* = 12
Excellent	>70	22 (73.3%)	6(85.7%)	8(72.7%)	8(66.6%)
Good	51–70	6 (20%)	1(14.3%)	3(27.3%)	2(16.7%)
Fair	31–50	2 (6.7%)			2(16.7%)
Poor	<30	–			

Table 3 A Comparison of studies of the chemical reconstruction of skin scars technique in ice pick acne scars

Parameters	Lee *et al.*[5]	Lee *et al.*[5]	Fabbrocini *et al.*[11]	Kim *et al.*[14]	Present study
Number of patients	33	32	5	8	30
Skin type	IV–V	IV–V	III	IV–V	IV–V
Concentration of TCA	65%	100%	50%	100%	100%
Frequency of application	1–3 months	1–3 months	1 month	3 months	2 weeks
Number of treatments	3–6	3–6	3	2	4
Results	2/33 had good to excellent results after three treatments Overall-27/33 had good results	15/32 had good to excellent results after three treatments Overall-30/32 had good results	Improved; details not mentioned	Grade 2.57	28/30 had good to excellent results after four treatments
Adverse effects	No significant complication	No significant complication	No significant complication	No significant complication	No significant complication

Journal of Cosmetic and Laser Therapy, 2014; 16: 8–13

informa
healthcare

ORIGINAL RESEARCH REPORT

Randomized clinical trial of CO_2 LASER pinpoint irradiation technique versus chemical reconstruction of skin scars (CROSS) in treating ice pick acne scars

RADWA AHMED, GHADA MOHAMMED, NADER ISMAIL & ATEF ELAKHRAS

Department of Dermatology and Venereology, Faculty of Medicine, Suez Canal University, Ismailia, Egypt

Métodos

28 pctes con cicatrices en picahielo,2 grupos de 14 pctes para láser de CO2 (Ultra-30 Plus DEKA SDV 25S) vs ATA CROSS. 4 sesiones c/3 semanas, seguimiento de 3 meses

Criterios exclusión: acné activo, queloides, inmunosuprimidos, ttos con láser o rellenos 6-12 meses previos, infección por herpes simple y en tto con isotreinoina

Métodos

Preparación previa: 2 sems antes Retin A crema en la noche, protector solar e hidroquinona 2-4% en la mañana. No anestesia tópica.

Parámetros láser: Fr 99 Hz, pulso nivel 2, spot de 0.12 mm, pulso cada 1 ms potencia de 0.9 W, técnica focal, irradiación focal en cada cicatriz.

Métodos

Postto: Protector solar, crema de pantenol 2 veces al día por 2 semanas.

Maquillaje para camuflaje

1 sem antes de la siguiente sesión: Retin-A crema + hidroquinona.

Evaluación: inicial, antes de cada sesión y a los 6 meses de la última sesión, por fotografías

Table I. Fitzpatrick skin photo types of patients among groups of the study.

Fitzpatrick skin photo types	CO_2 LASER ($n = 14$)		TCA CROSS ($n = 14$)	
	Frequency	Percent	Frequency	Percent
Type II	2	14.2	1	7.3
Type III	6	42.8	7	50
Type IV	5	35.7	4	28.5
Type V	1	7.3	2	14.2

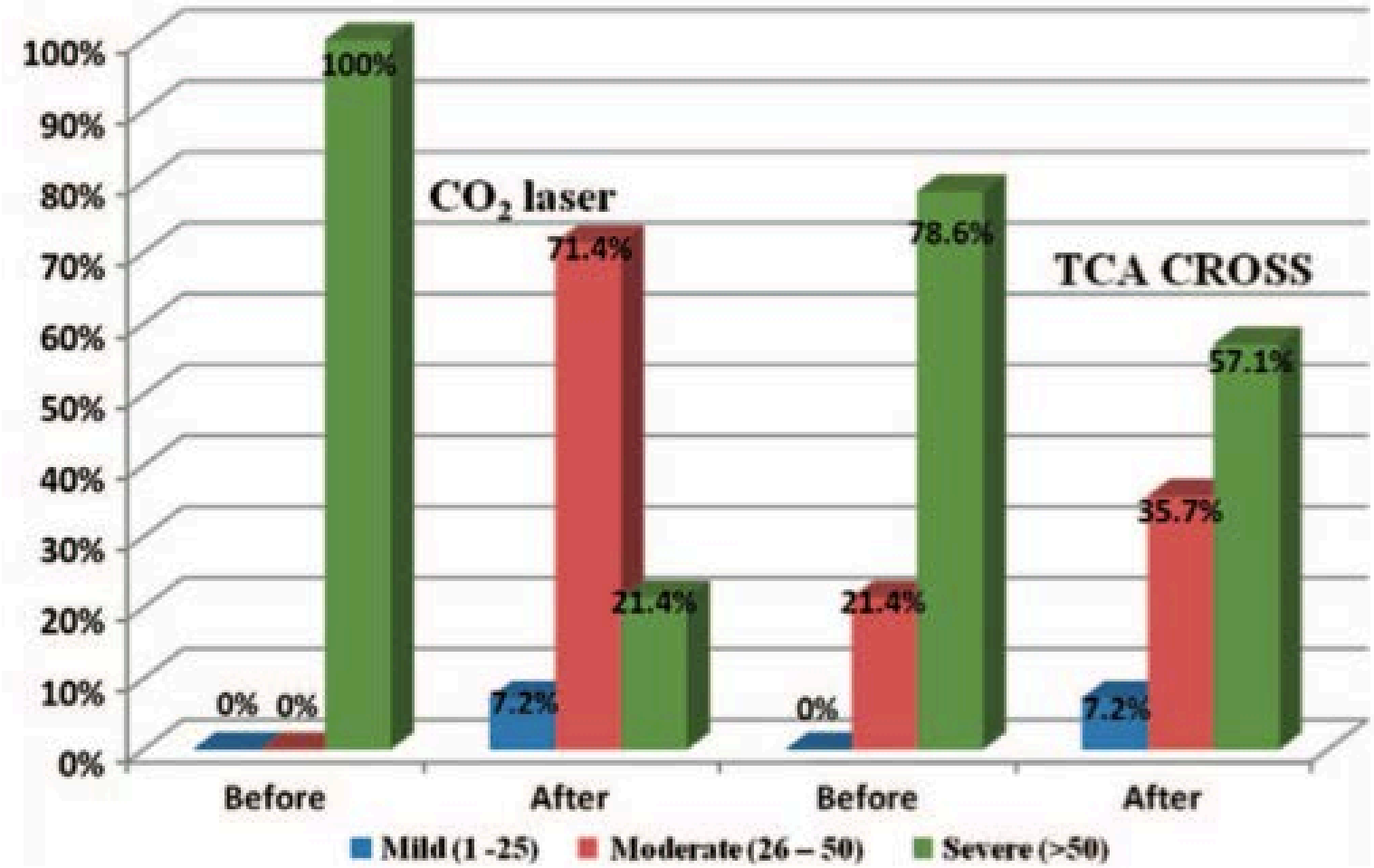


Figure 1. Classification of patients among groups of the study according to acne scars severity index.

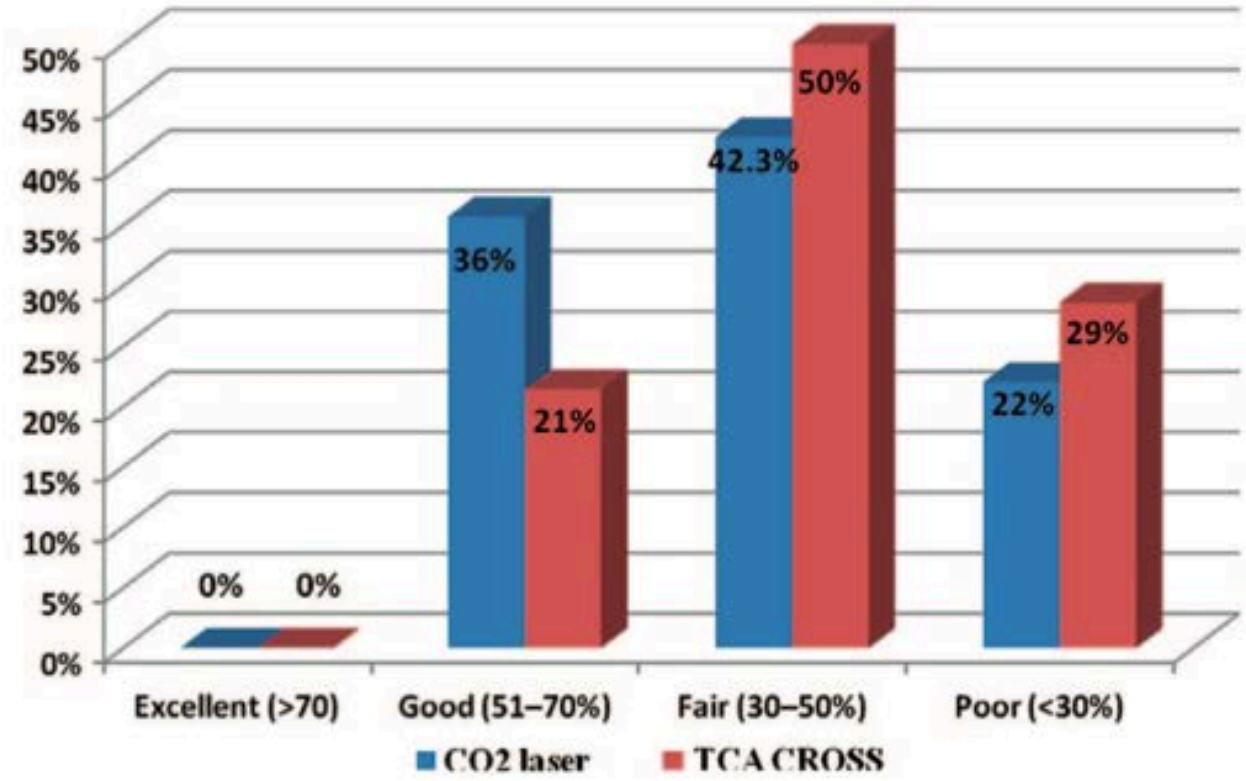


Figure 2. Distribution of patients among groups of the study according to improvement (percent of scar reduction) after both procedures.

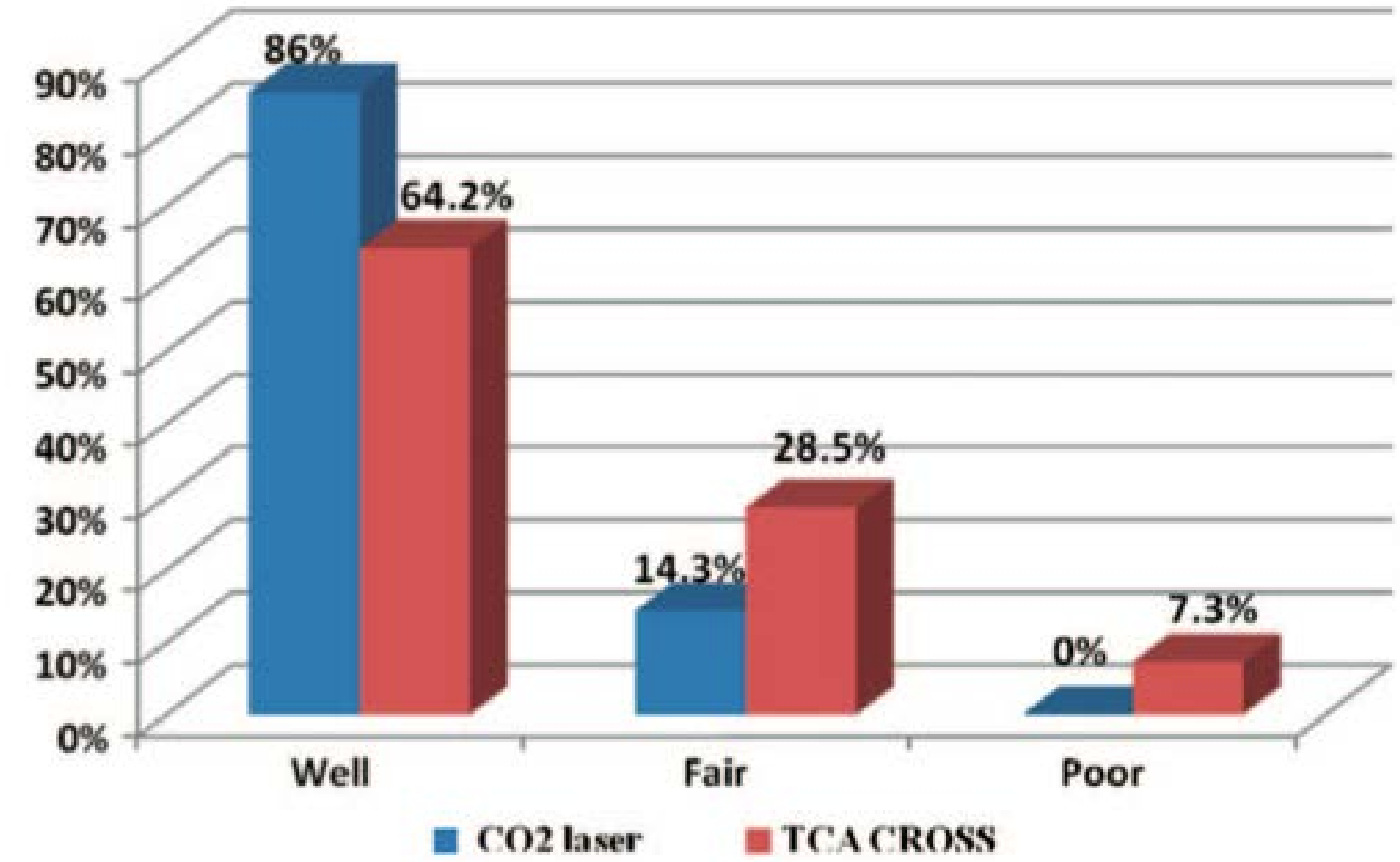


Figure 3. Distribution of patients among groups of the study according to their satisfaction.

Table II. Complications among patients of both groups.

	CO_2 LASER ($n = 14$)		TCA CROSS ($n = 14$)	
	Frequency	Percent	Frequency	Percent
No complications	5	35.7	0	00
Persistent swelling	0	00	0	00
Temporary post procedure hypopigmentation	0	00	0	00
Temporary post procedure hyperpigmentation	2	14.2	9	64.2
Infection	2	14.2	6	42.8
Itching (picking at the scabs)	0	00	1	7.1
Contact dermatitis	0	00	0	00

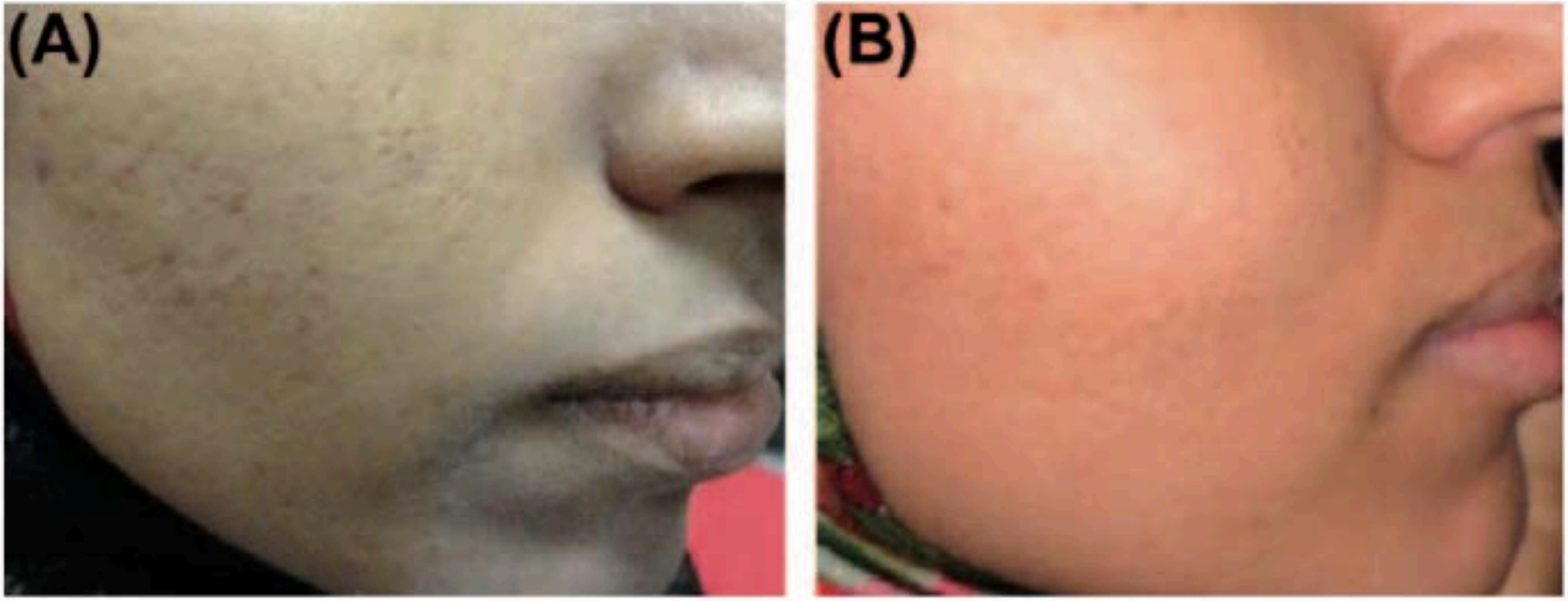


Figure 4. Case 1: Thirty-two year old female patient with Fitzpatrik phototype IV complained of ice pick scars (A) before treatment; (B) 6 months after four sessions of CO_2 treatment (Study group).

Figure 5. Case 2: Thirty year old female patient with Fitzpatrik phototype III complained of ice pick scars (A) before treatment; (B) 6 months after four sessions of CO_2 treatment (Study group).

Figure 6. Case 3: Twenty-five year old female patient with Fitzpatrik phototype II complained of ice pick scars (A) before treatment; (B) 6 months after four sessions of CO_2 treatment (Study group).

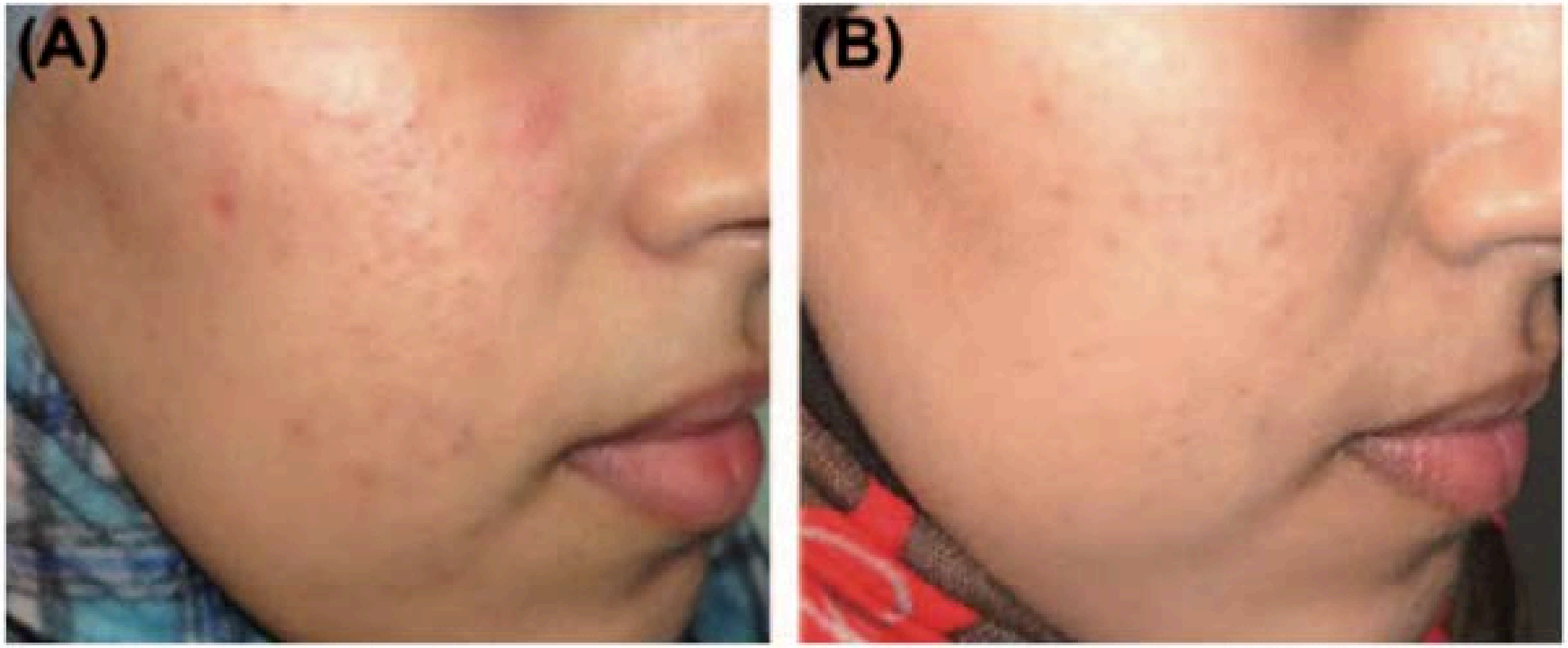


Figure 7. Case 4: Twenty-eight year old female patient with Fitzpatrik phototype III complained of ice pick scars (A) before treatment; (B) 6 months after four sessions of CROSS treatment (Control group).

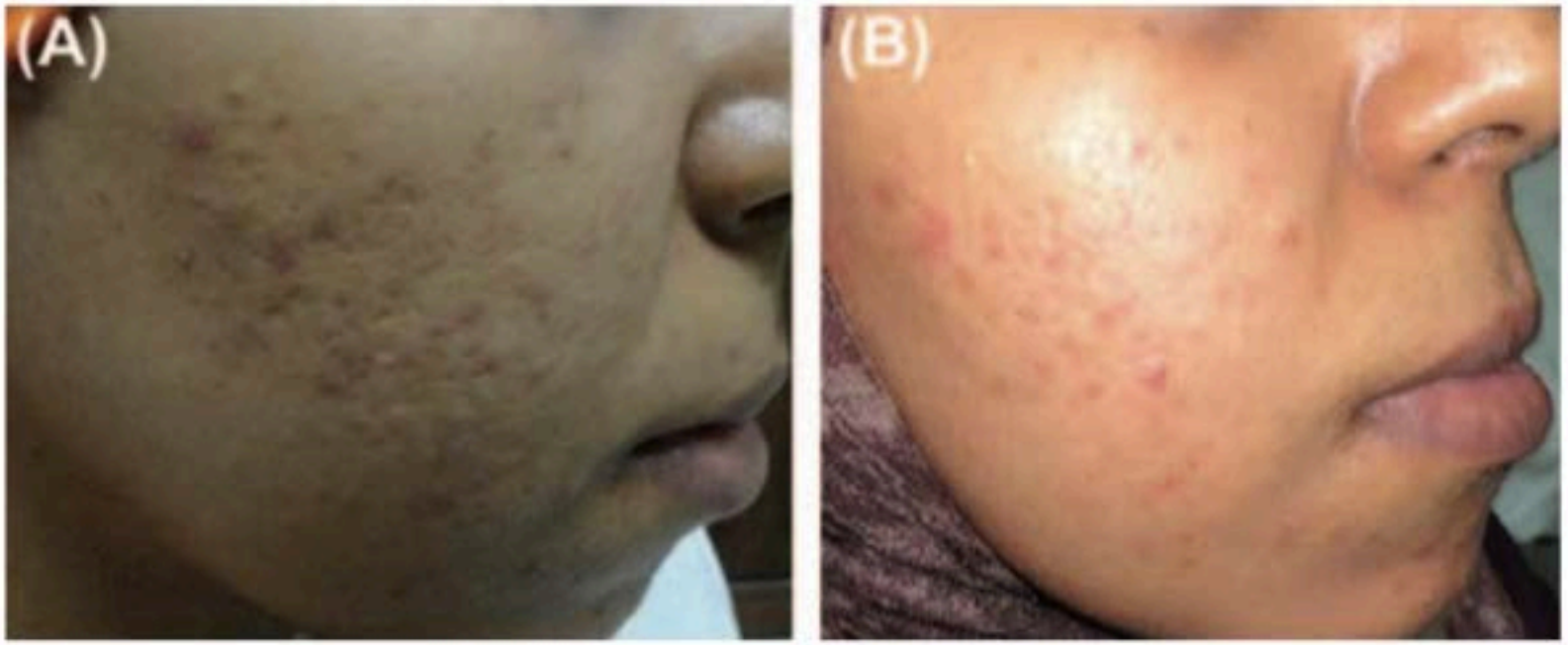


Figure 9. Case 6: Twenty-four year old female patient with Fitzpatrik phototype IV complained of ice pick scars (A) before treatment; (B) 6 months after four sessions of CROSS treatment (Control group).

Figure 8. Case 5: Thirty-three year old female patient with Fitzpatrik phototype IV complained of ice pick scars (A) before treatment; (B) 6 months after four sessions of CROSS treatment (Control group).

Comparative Study of the Use of Trichloroacetic Acid and Phenolic Acid in the Treatment of Atrophic-Type Acne Scars

Mariana Dalpizzol, MD, Magda B. Weber, MD, PhD, Anna Paula F. Mattiazzi, MD, and Ana Paula D. Manzoni, MD, PhD

Dermatol Surg 2016;42:377–383

Métodos

Estudio no aleatorizado, pacientes con cicatrices en picahielo y boxcar. En una hemicara fenol al 88% y en la otra ATA al 90% con técnica CROSS.

Valoración de resultados con DLQI y escala de evaluación clínica de cicatrices, pre tto y postto.

Pctes entre abril – octubre de 2012, > 18 años

Exclusión: fototipos V y VI, hª de alergia a los componentes, queloides, embarazo, uso de isotretinoina en los 6 meses previos.

Preparación : adapaleno 0.3% 2 sems antes del procedimiento , protector solar 3v/día.

Sesiones cada 21 días, 4 en total.

Valoración 1 mes posterior a última sesión

Description	Weighting factor (a)	Semi-quantitative score (b)	Grading (a × b)
V-shaped atrophic scars, diameter of less than 2 mm, and punctiform	15	0 = no scar 1 = a few scars 2 = limited number of scars 3 = many scars	/_____/
U-shaped atrophic scars, diameter of 2–4 mm, with sheer edges	20	0 = no scar 1 = a few scars 2 = limited number of scars 3 = many scars	/_____/
M-shaped atrophic scars, diameter of more than 4 mm, superficial and with irregular surface	25	0 = no scar 1 = a few scars 2 = limited number of scars 3 = many scars	/_____/
Superficial elastolysis	30	0 = absent 1 = mild 2 = moderate 3 = intense	/_____/
Subgrading 1			/_____/
Hypertrophic inflammatory scars, scars of less than 2 years of age	40	0 = no scar 1 = a few scars 2 = limited number of scars 3 = many scars	/_____/
Keloid scars, hypertrophic scars, of more than 2 years of age	50	0 = no scar 1 = a few scars 2 = limited number of scars 3 = many scars	/_____/
Subgrading 2			/_____/
Global score (subgradings 1 + 2)			/_____/

Figure 1. Acne scar grading scale ECCA used to classify the scars on each hemiface.

Figure 2. Demonstration the CROSS technique applying the 88% phenol or 90% TCA inside the atrophic scar.

TABLE 1. Mean, SD, and Median for Acne Scar Grading Scale (ECCA), the Pre and Post Intervention Ratings, According to the 90% TCA and 88% Phenol

	Variables						
	90% TCA			*88% Phenol*			
ECCA	*Mean*	*SD*	*Median*	*Mean*	*SD*	*Median*	*p**
ECCA Pre	130.7	73.7	120.0	125.0	—	105.0	.325
ECCA Post	91.0	72.0	70.0	90.0	—	70.0	.834
*p**	—	<.001			<.001	—	—

*Wilcoxon Test.

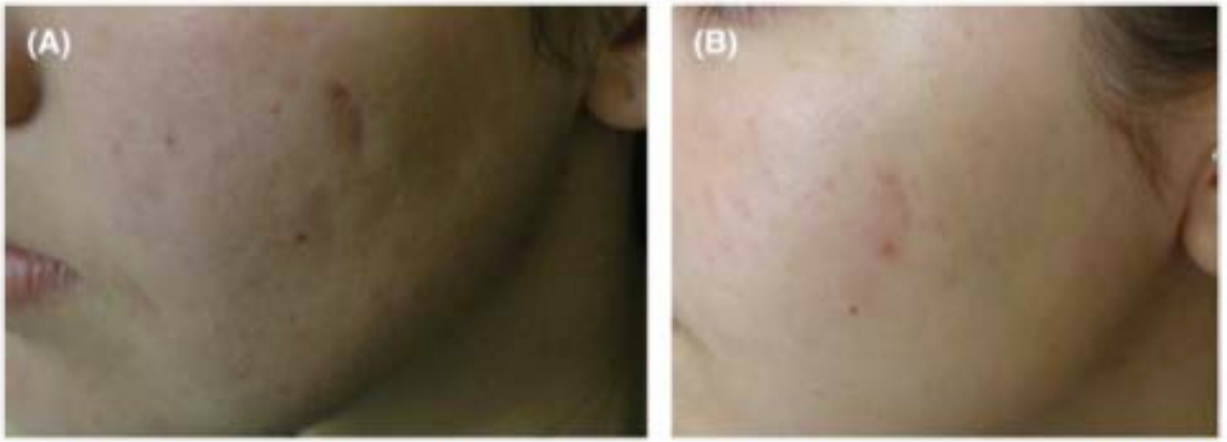


Figure 3. (A) Atrophic scar before treatment with 88% phenol. (B) Scar after the fourth session of the CROSS technique with 88% Phenol.

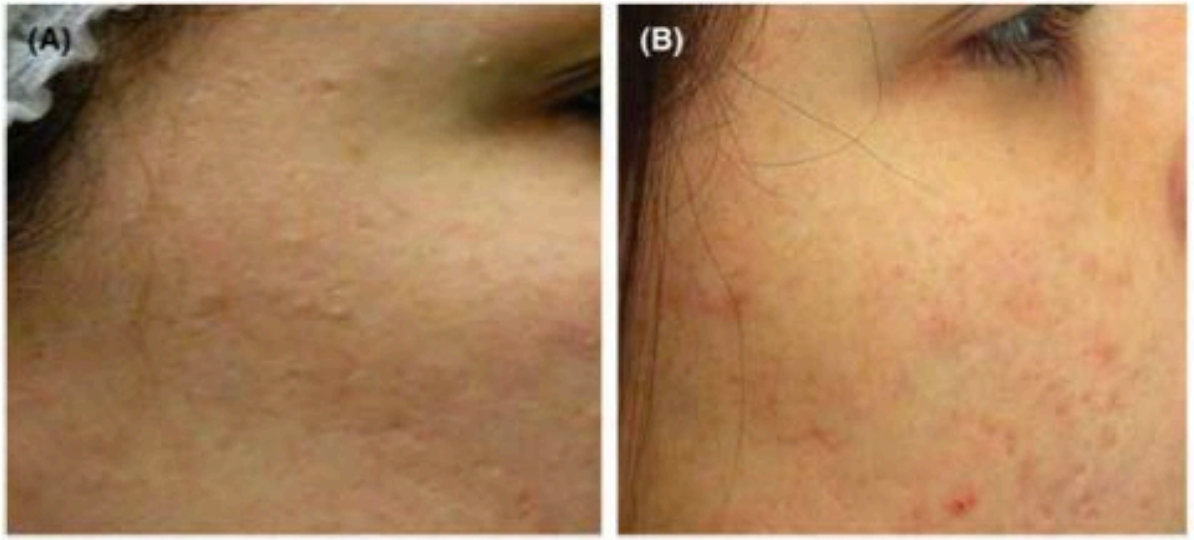


Figure 4. (A) Atrophic scar before treatment with 90% TCA. (B) Scar after the fourth session of the CROSS technique with 90% TCA.

TABLE 2. Mean, SD, and Median for the Note to Finish the Application, Pain During Application, and Fall Time of the Last Scabs After Application on the Pre and Post Intervention Seconds 90% TCA and 88% Phenol

	Variables						
	90% TCA			*88% Phenol*			
Variables	*Mean*	*SD*	*Median*	*Mean*	*SD*	*Median*	*p**
Improvement noted by patient (0–10)	6.9	2.7	8.0	6.8	2.6	8.0	.634*
Improvement noted by physician (0–10)	6.9	1.5	7.0	6.9	1.2	6.0	<.999*
Pain during application	4.4	1.4	4.3	5.3	1.8	5.0	.011†
Fall time of the last scabs after application	5.6	1.9	5.0	5.1	2.4	4.3	.405*

*Wilcoxon Test.

†t-Student Test for paired data.

TABLE 3. Mean, SD, and Median for the Dermatological Quality of Life Index, the Pre and Post Intervention

DLQI	*Mean*	*SD*	*Median*
DLQI Pre	6.7	5.4	5.0
DLQI Post	3.3	3.3	2.0
*p**	—	.020	—

*Wilcoxon Test.

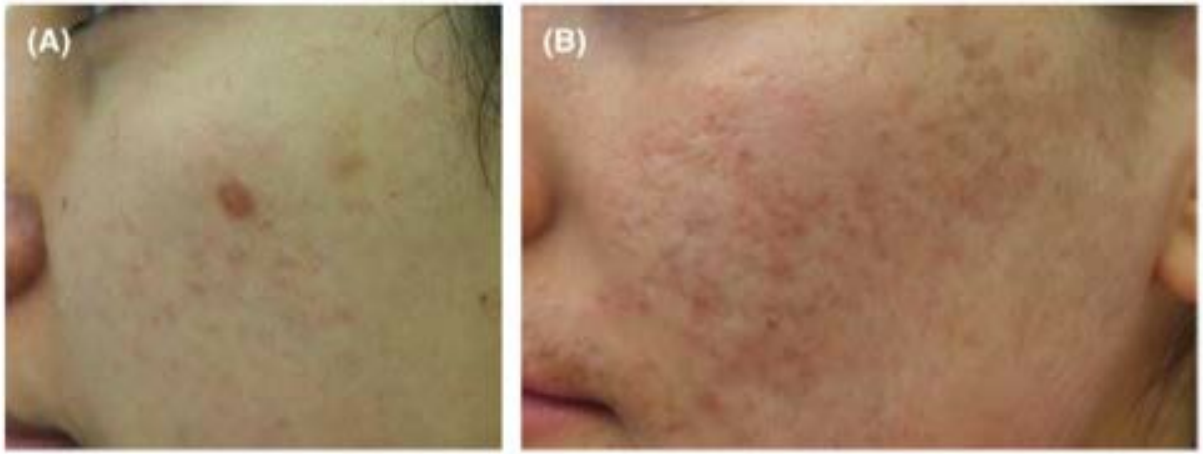


Figure 5. Complications seen with the use of 88% phenol: (A) the patient with major hyperpigmentation, and (B) the patient with persistent erythema.

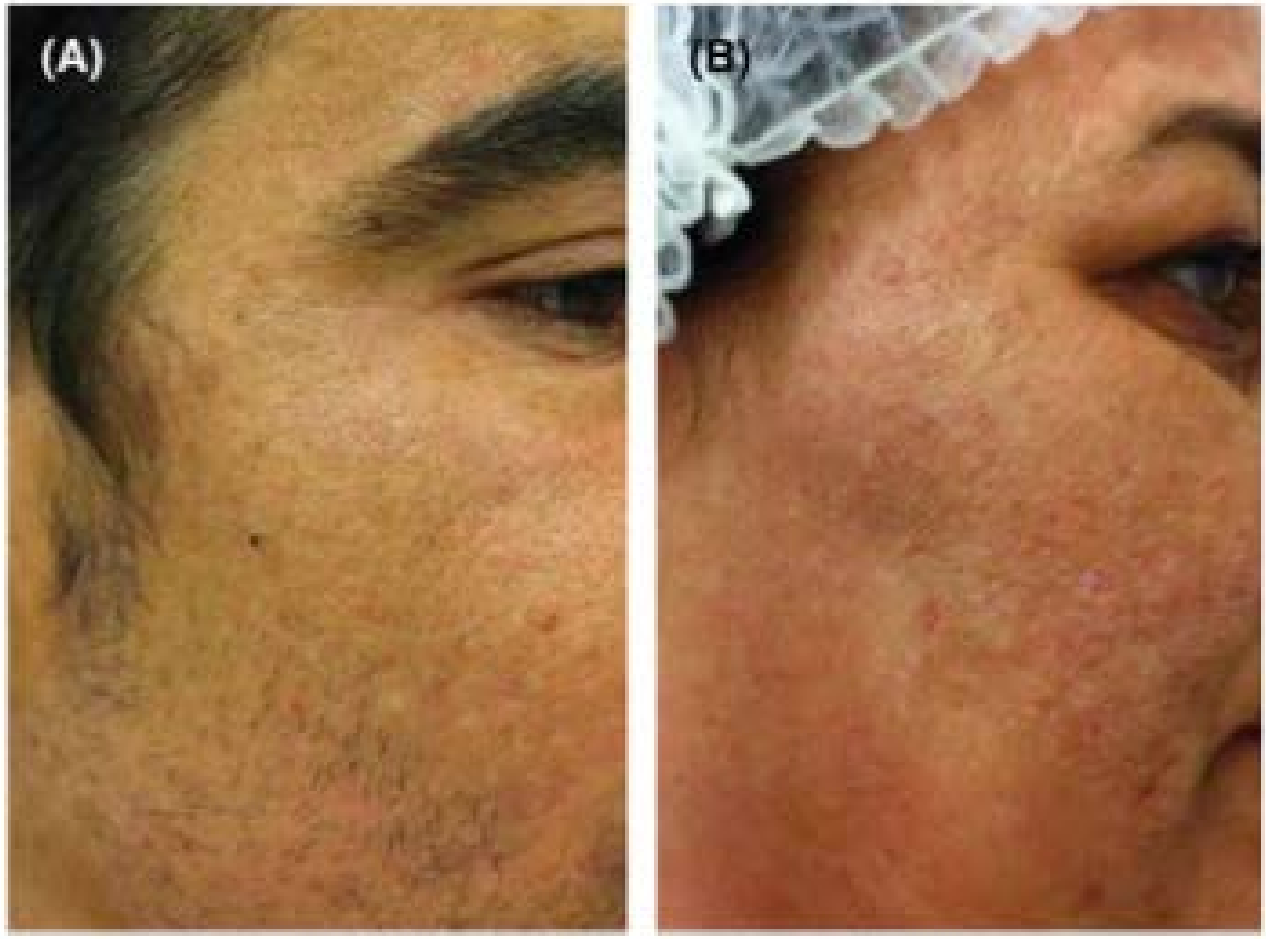


Figure 6. Complications seen with the use of 90% TCA: (A) the patient with hypopigmentation, and (B) the patient's scar became wider.

Complicaciones

Eritema persistente: 6 pctes (42.85%), 4 de estos (28.4%) fueron tratados con fenol.

Hiperpigmentación: 4 pctes (28.5%) 2 con ATA y 2 con fenol.

Hipocromía: 2 pctes (14.3%) y las cicatrices aumentaron, ambos con el ATA 90%

Conclusiones

Ambos efectivos

Mejoría clínica y en la calidad de vida

Menos efectos adversos con el uso del fenol al 88% (solo en hipopigmentación, pocos pctes)

Lasers in Surgery and Medicine 41:545–549 (2009)

Comparison of a 1,550 nm Erbium:Glass Fractional Laser and a Chemical Reconstruction of Skin Scars (CROSS) Method in the Treatment of Acne Scars: A Simultaneous Split-Face Trial

Hee Jung Kim, MD, **Tae Gyun Kim,** MD, **Yeon Sook Kwon,** MD, **Jin Mo Park,** MD, **and Ju Hee Lee,** MD, PhD*
Department of Dermatology and Cutaneous Biology Research Institute, Yonsei University College of Medicine, Seoul, Korea

Métodos

20 pctes, 10 cicatrices rolling, 10 en pica hielo. 22-37 años, fototipo IV y V incluidos, duración media de cicatrices 4.8 años.

Exclusión: embarazo, lactancia, cicatrces queloides, hipertróficas, herpes simple, infecciones acrivas de piel, isotretinoina 6 meses antes

Una mejilla láser Er-Glass fraccionado cada 6 sems/3 sesiones, otra mejilla ATA 100% técnica CROSS 2 sesiones cada 12 semanas.

Mejoría: 0 (1-25%), 2 (26-50%) 3 (51-75%) 4 (> 75%)

TABLE 1. Improvement Scores of Acne Scars and Complications After a 1,550 nm Erbium:Glass Fractional Laser and a CROSS Method

	1,550 nm Er:Glass laser	CROSS method
Objective assessment (0–4)		
Overall	2.51	2.44
Rolling type	2.88[a]	2.31
Icepick type	2.14	2.57
Subjective assessment (0–4)		
Overall	2.79	2.43
Rolling type	2.85[a]	2.29
Icepick type	2.71	2.57
Complications		
Pain (0–9)	4.49[a]	3.33
Downtime (days)	3.31	9.72[a]
Erythema lasting days (days)	3.30	12.13[a]

[a]The differences in mean grades between laser site and CROSS site were statistically significant ($P < 0.05$).

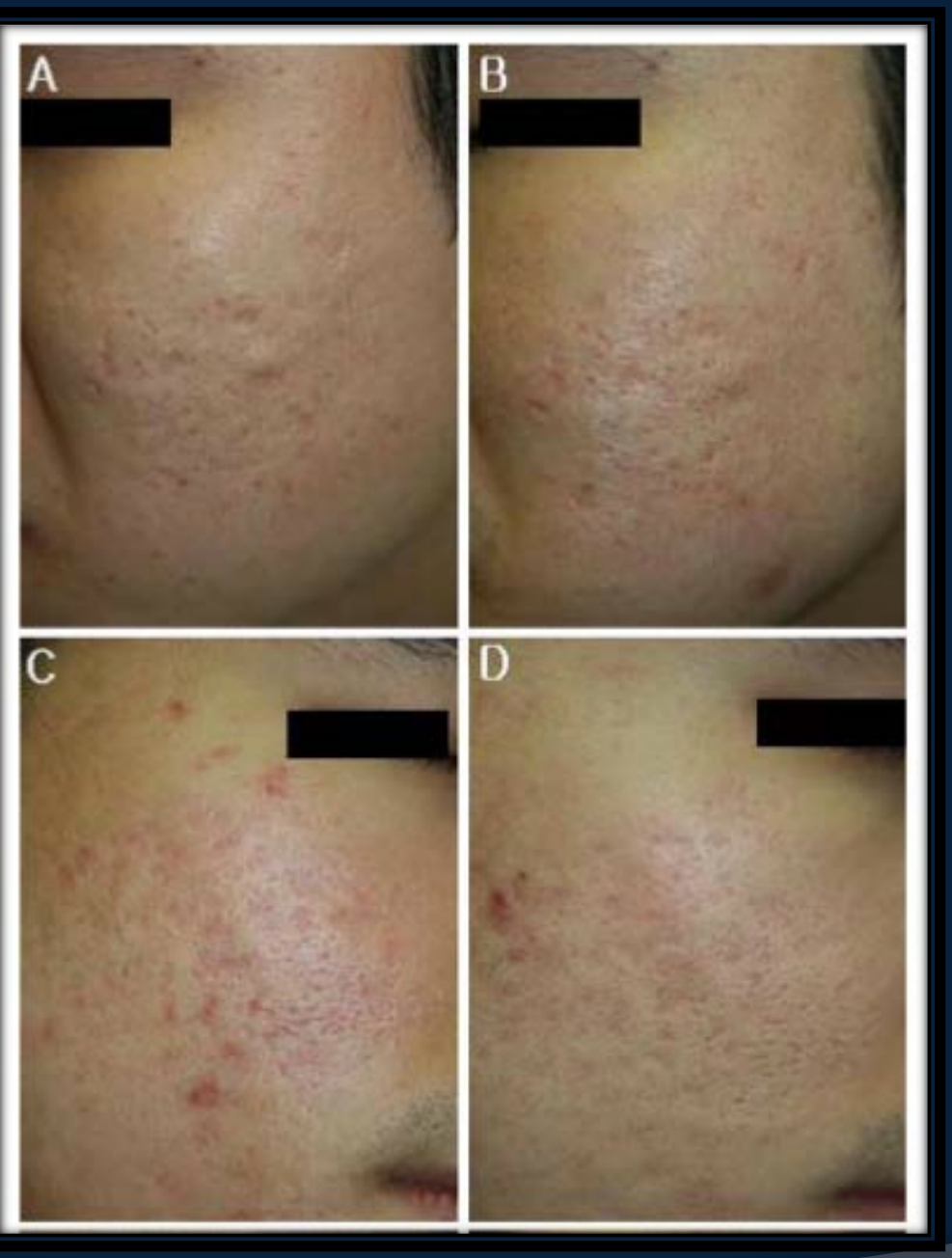


Fig. 1. Patient 2 with rolling type scars. **A**: Before treatment, (**B**) 12 weeks after the final treatment with 1,550 nm Er:Glass fractional laser. Patient 11 with rolling type scars. **C**: Before treatment, (**D**) 12 weeks after the final treatment with CROSS technique. Patient 7 with icepick type scars. **E**: Before treatment, (**F**) 12 weeks after the final treatment with 1,550 nm Er:Glass fractional laser. Patient 9 with rolling type scars. **G**: Before treatment, (**H**) 12 weeks after the final treatment with CROSS technique.

Fig. 1. Patient 2 with rolling type scars. **A**: Before treatment, (**B**) 12 weeks after the final treatment with 1,550 nm Er:Glass fractional laser. Patient 11 with rolling type scars. **C**: Before treatment, (**D**) 12 weeks after the final treatment with CROSS technique. Patient 7 with icepick type scars. **E**: Before treatment, (**F**) 12 weeks after the final treatment with 1,550 nm Er:Glass fractional laser. Patient 9 with rolling type scars. **G**: Before treatment, (**H**) 12 weeks after the final treatment with CROSS technique.

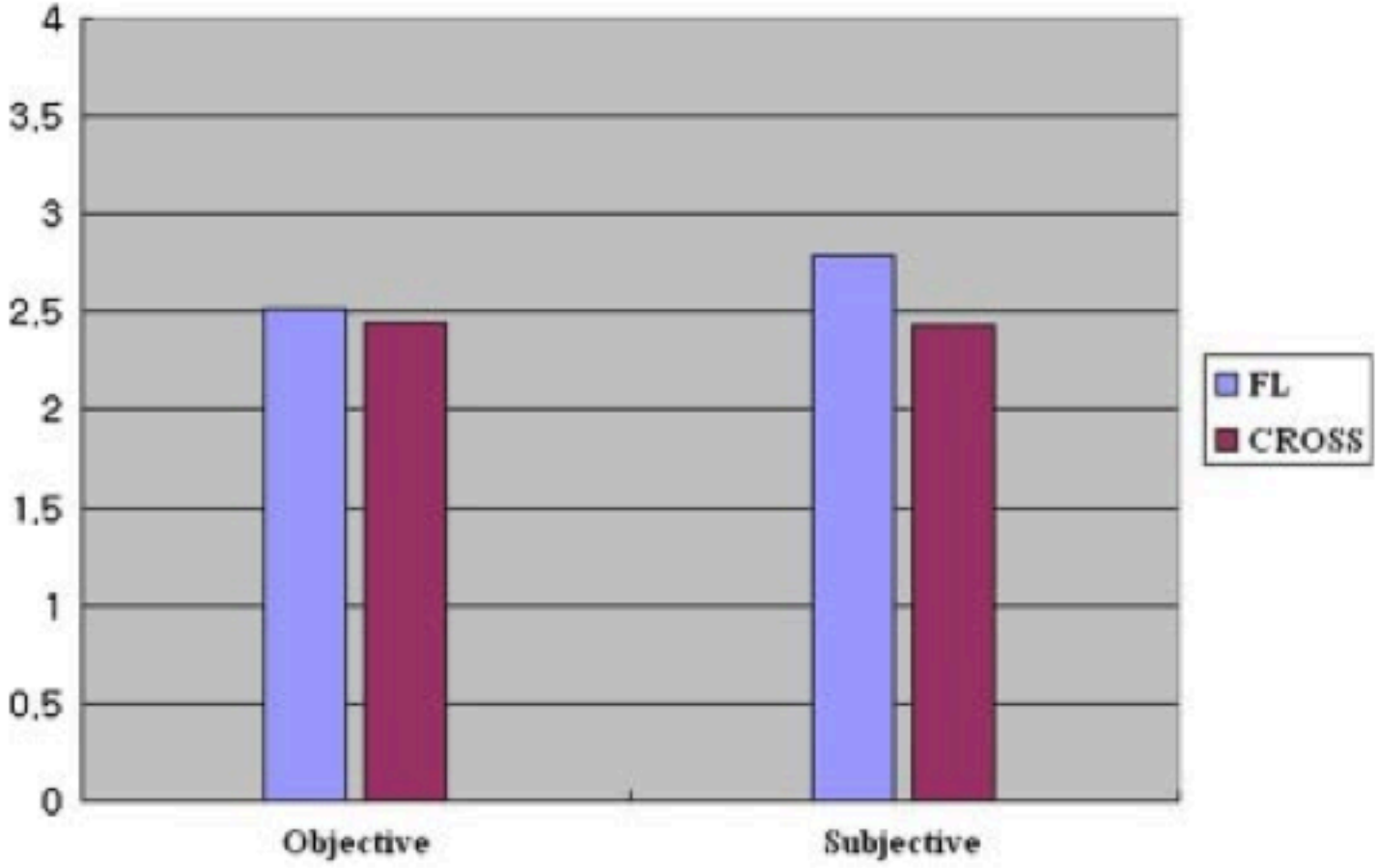
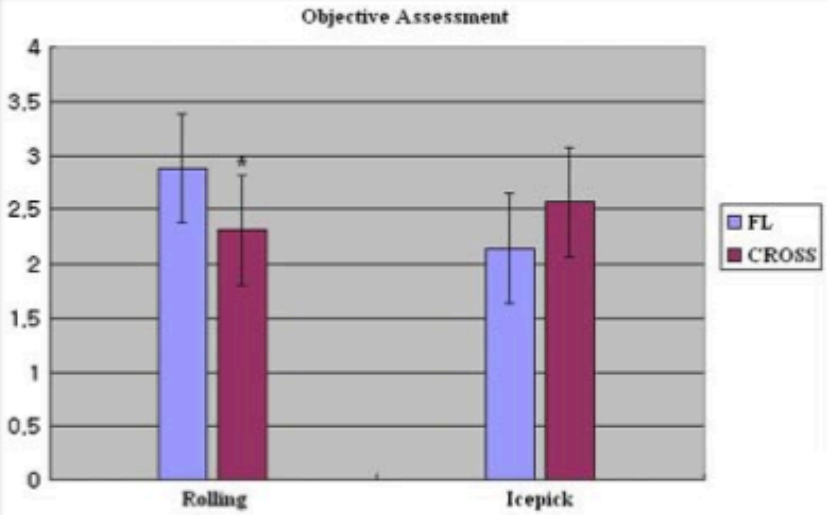


Fig. 2. Degree of overall average improvement scores after each treatment with a 1,550 nm Er:Glass fractional laser and CROSS method.



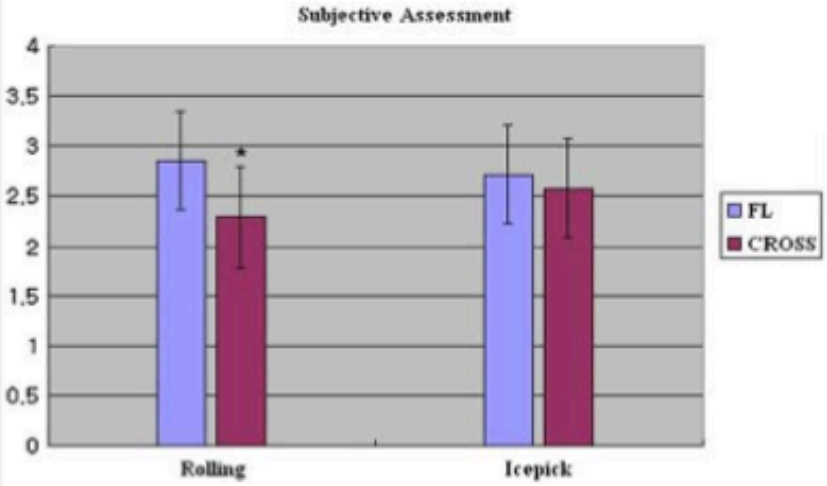


Fig. 3. Degree of clinical objective and subjective improvement scores after each treatment of rolling and icepick type acne scars with a 1,550 nm Er:Glass fractional laser and CROSS method. In patients with rolling scar type, the objective and subjective improvement rates were significantly higher in the sides treated with 1,550 nm Er:Glass laser than CROSS method ($P<0.05$).

COMMUNICATIONS AND BRIEF REPORTS

Complication of Cross-Technique on Boxcar Acne Scars: Atrophy

Magda Blessmann Weber, MD, PhD, Raquel Bozzetto Machado, MD, Isadora Rosa Hoefel, MD, Ana Paula Dornelles Manzoni, MD, MS, and Ariane Da Silva Bastos Geler, MD[§]

The authors have indicated no significant interest with commercial supporters.

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Figure 1. Ice pick– and boxcar-type scars in the malar regions before treatment.

Figure 2. Atrophy in some of the treated scars, after second application.

ATA 80%

Figure 3. Hypochromic scars 120 days after the first application of TCA acid.

GRACIAS