



Fibro Edema Gelóide

Profa. Dra. Elaine Guirro

Definição do Termo

- Celulite
- Fibro Edema Gelóide
- Lipodistrofia Ginóide – herniações de adipócitos (Avran, 2002)
- Adiposidade Edematosa (Lotti et al., 1990; Rossi e Vergnanini, 2000)
- Hidrolipodistrofia
- Paniculopatia Edematosa Fibro Esclerosante etc.

Histórico

- Pavioti (1926) - Descrição Anátomo-patológica
- Ricoux (1936) - Etiologia Hormonal
- Lageze (1938) - Descrição Anatomo-patológica
- Laroche et al. (1941) - Adiposidade X Celulite
- Duval (1954) - Associada a Disfunção Hipofisária
- Bassas Grau (1966) - Hiperpolimerização da SFA
- Muller et al. (1972) - Tensão nas Fibras Conjuntivas
- Alquier (1973) - Resposta à Agressão
- Merlen et al. (1983) - Anormalidade Circulatória

Fibro Edema Gelóide

■ Três fases evolutivas no processo:

- Edema difuso intersticial
- Exudação fibrinosa - “colagenização”
- Esclerose e atrofia

Lagése, 1928

Histopatologia

- Concentração de proteína aumentada
 - (0,8-1,2 mg/mL; normal 0,2 mg/mL);
- Pressão intersticial aumentada
 - (150 – 200 mmH₂O; normal 75-91 mm H₂O);
- Alteração microcirculatória – insuficiência.

■ Rossi e Vergnanini, 2000

Fibro Edema Gelóide

- Nosologicamente diferente da obesidade (não específica, mas causa exacerbação do quadro).
 - A redução do IMC melhora o quadro, mas não modifica a arquitetura da pele.

(Draelos, 1997; Rosebaum, 1998)

- Obesidade - hipertrofia e hiperplasia adipocitária.
- Diferentes alterações na composição de triglicérides e ácidos graxos livres nos adipócitos.

Fibro Edema Gelóide - Etiologia

- Desconhecida (Alsters e Tehranim, 2006)
- Multifatorial
 - Fatores
 - Predisponentes: genéticos, gênero
 - Desencadeantes: hiperestrogenismo
 - Coadjuvantes: nutricionais, hormonais, iatrogênicos, pouca atividade física....

Fibro Edema Gelóide

- Espessamento da membrana basal de capilares e vênulas dermo-hipodérmicos, semelhante à microangiopatia diabética (Segers, 1984).
- Alterações típicas de insuficiência venosa crônica: telangectasias, sensações de peso, câimbras, diminuição da temperatura tecidual, sensibilidade ao toque (Binazzi, 1977).

Fibro Edema Gelóide - Etiologia

■ Hipótese Imunológica

- Fibroblastos estimulados por linfócitos - aumento na produção de glicosaminoglicanas - aumento do poder hidrofílico, aumento da PO intersticial
- Retenção hídrica - edema - aumento da viscosidade, diminuição dos intercâmbios celulares, hipóxia tecidual

Ciprokin e Paschoal, 1992

Fibro Edema Gelóide Etiologia

- Estrógeno - principal hormônio envolvido

Pièrard, 2005

- Evidências:
 - Grande incidência em mulheres
 - Surgimento após puberdade
 - Agravamento - gestação, ciclo menstrual, estrogênio terapias

Alterações Semiológicas

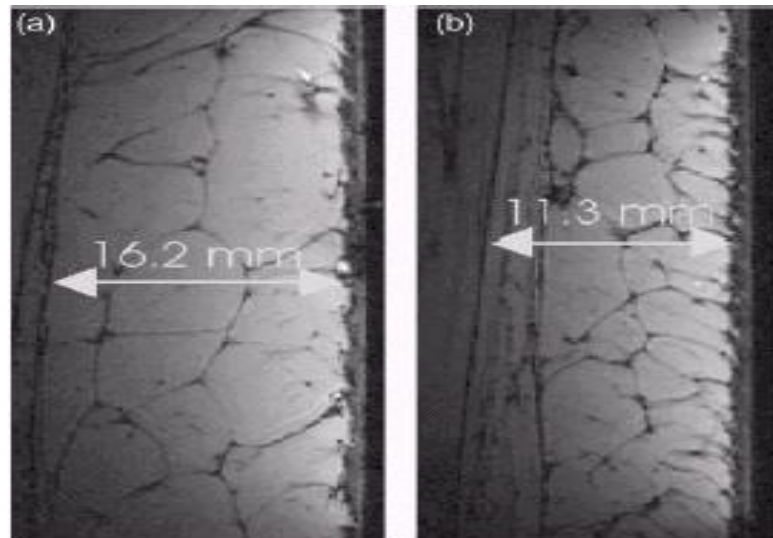
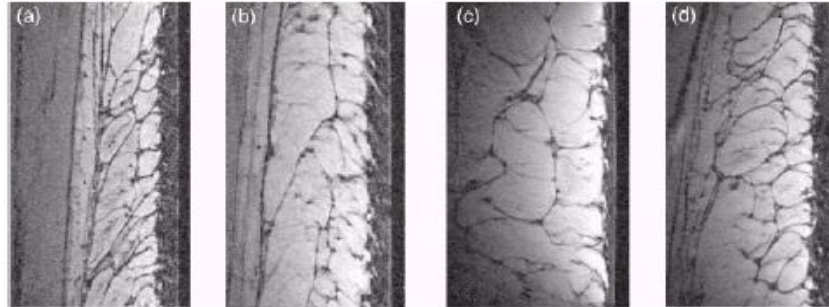
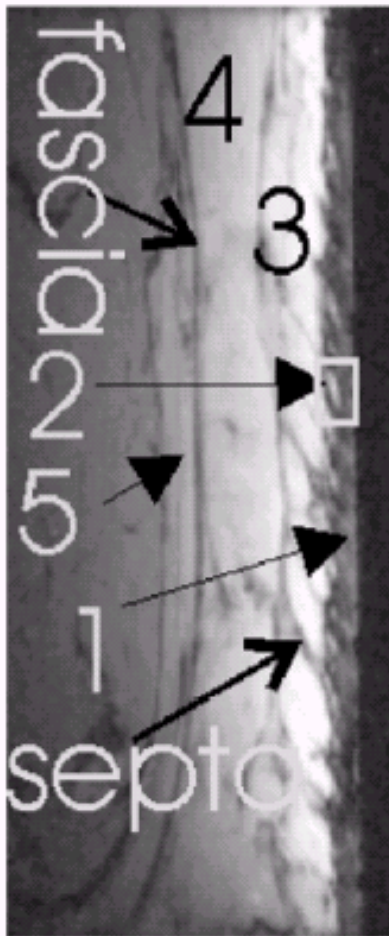
Curri, 1991

- Alterações do relevo cutâneo
- Perda da elasticidade
- Dor à palpação Profunda
- Estrias
- Nódulos à palpação
- Alterações circulatórias - telangectasias
- Laser, doppler e fluxometria - fluxo sanguíneo 35% menor - Smith (1995)

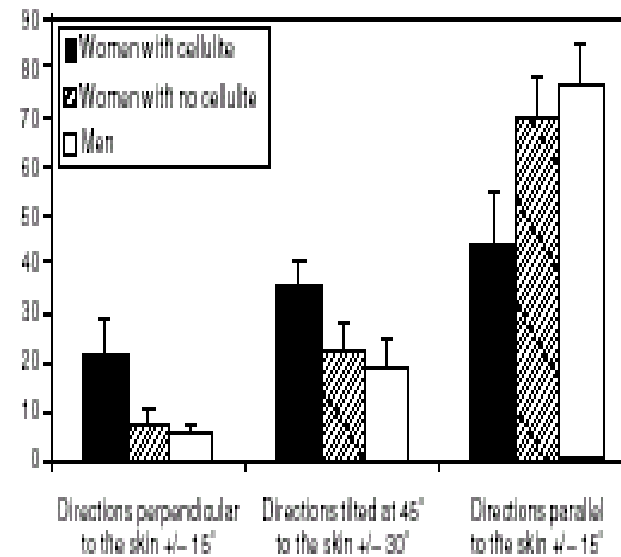
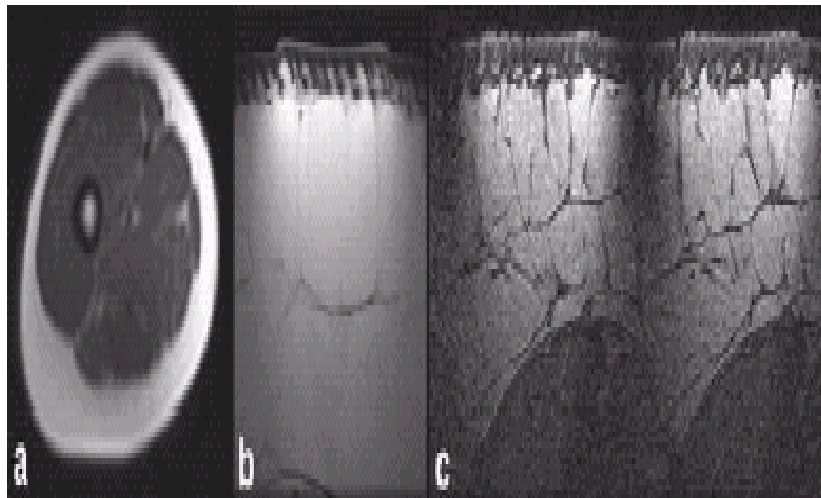
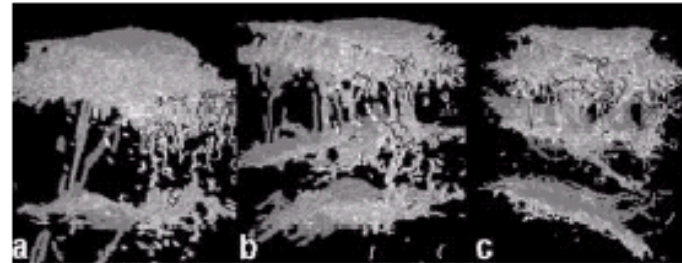
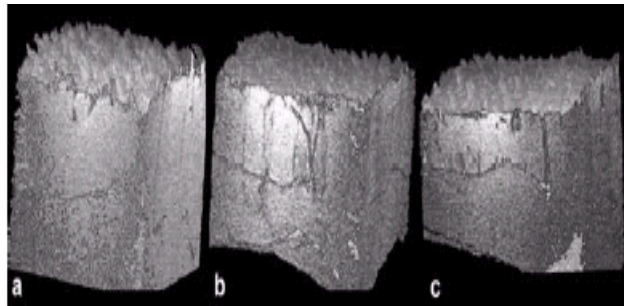
Equipamento de microressonância



Ressonância



Arquitetura da Pele



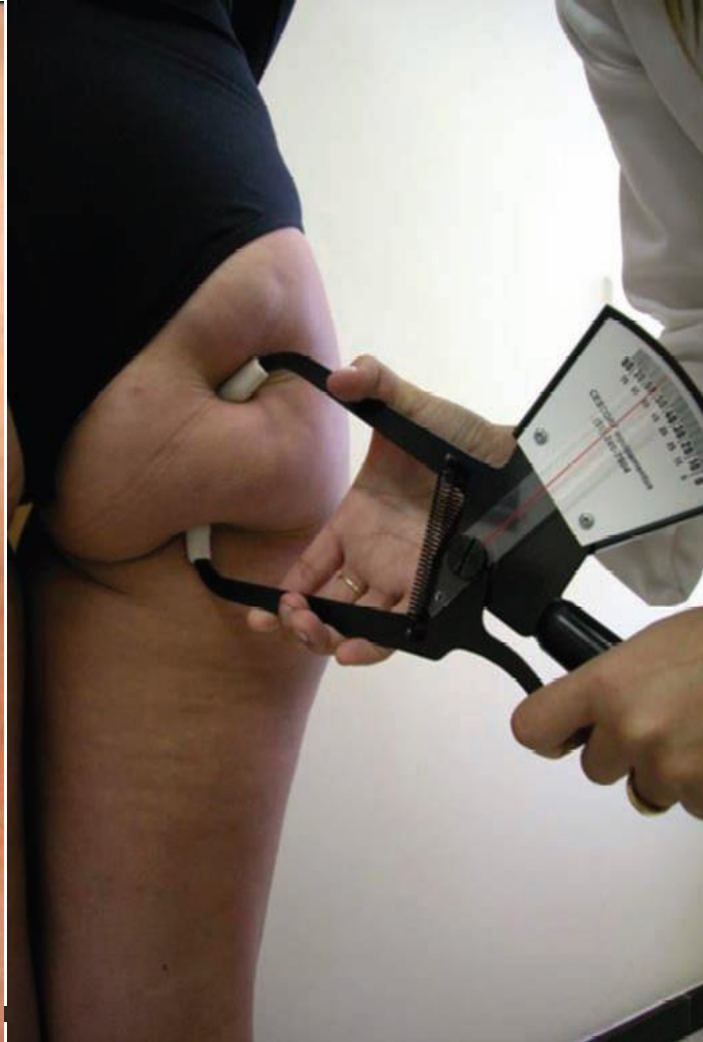
Propedêutica de Inspeção

■ Tétrade de RICOUX

- Aumento da espessura do tecido conjuntivo
- Aumento da consistência
- Aumento da sensibilidade à dor - “pinch test”
- Diminuição da mobilidade

Pinch Test

(Hexsel et al., 2006)



Estágios do FEG

- Branda (Grau 1)
- Média (Grau 2)
- Grave (Grau 3)

Classificação

Grade or stage	Clinical characteristics
0 (zero)	There is no alteration of the skin surface.
I	The skin of the affected area is smooth while the subject is standing or lying, but the alterations to the skin surface can be seen by pinching the skin or with muscle contraction.
II	The orange skin or mattress appearance is evident when standing, without the use of any manipulation (skin pinching or muscle contraction).
III	The alterations described in grade or stage II, are present together with raised areas and nodules.

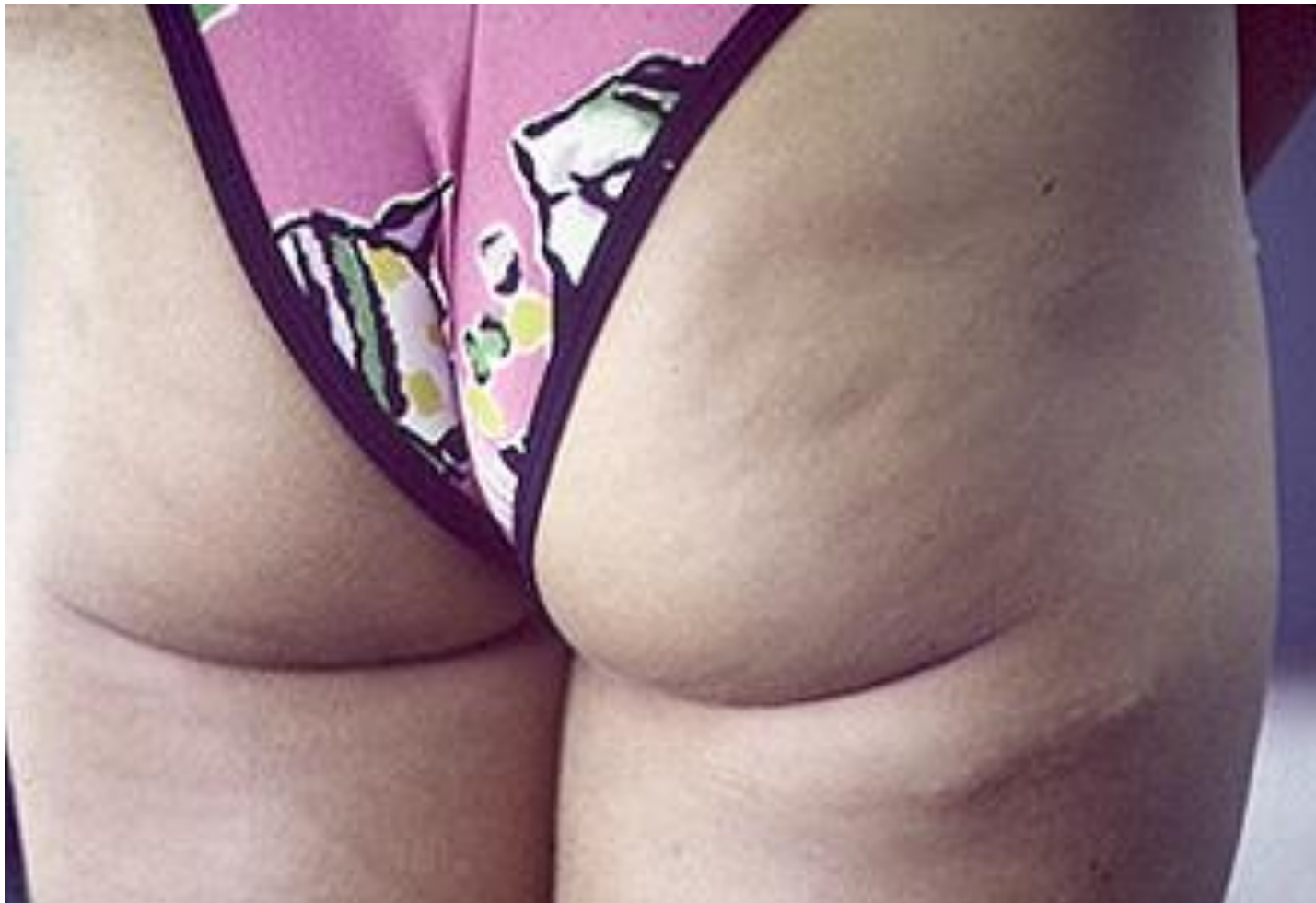
Avaliação



Avaliação



Avaliação



Avaliação

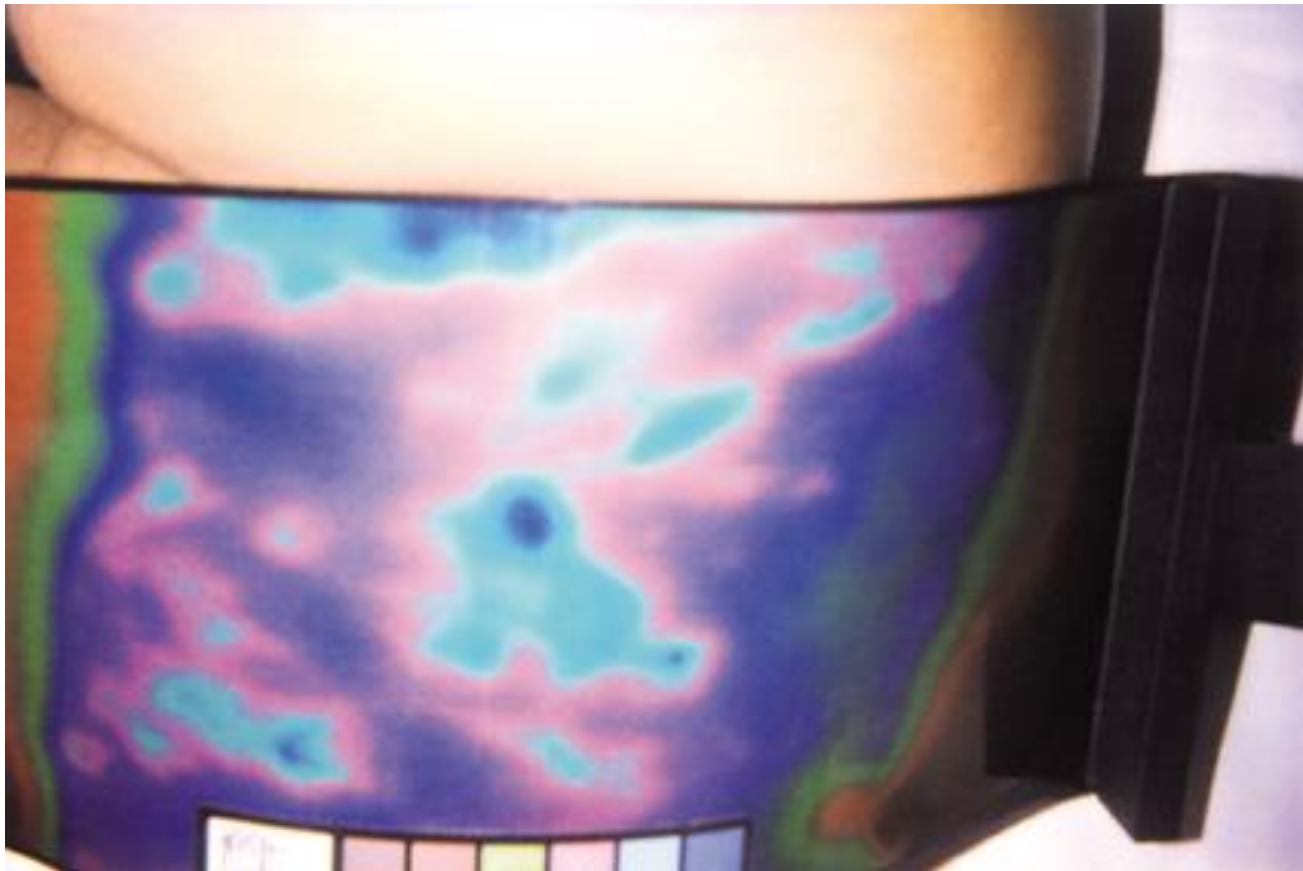


Avaliação - FEG

Escala Fotonumérica (Cellulite Severity Scale - CSS) – Baseada em informações obtidas de fotografias da pele. Fonte: Hexel, DM, Dal’Forno, T, Hexel, CL. A validated photonumeric cellulite severity scale. JEADV 2009;23:523-528.

Escala de severidade - Cellulite Severity Scale (CSS) – Hexel, Dal’Forno e Hexel (2009)				
Aspectos Avaliados	0	1	2	3
Número de depressões evidentes	nenhuma	1-4 depressões visíveis	5-9 depressões visíveis	10 ou mais
Profundidade das depressões da pele	ausente	superficial	média	profunda
Aparência clínica das lesões	Não observáveis	“casca de laranja”	“queijo cottage”	“acolchoada”
Grau de laxidão, flacidez da pele	ausente	Levemente enrugada	Moderadamente enrugada	Severamente enrugada
Gradação - Escala de Nürberger and Müller	Grau 0	Primeiro Grau	Segundo Grau	Terceiro Grau

Anamnese



Recursos Terapêuticos

- Mesoterapia
- Ultrassom
- Eletroterapia
- Massagem
- Laser?
- Carboxiterapia ?
- Bandagem fria ?
- Radiofrequência
- Atividade física
- Plataforma vibratória
- Endermologia
- Cirurgias

Massagem – FEG

- Massagem Clássica
- Endermologia
- DLM
 - Pressoterapia
 - Eletroterapia



(Lucassen et al., 1997; Collis et al, 1999; Perin et al., 2000)

Tratamento Cirúrgico

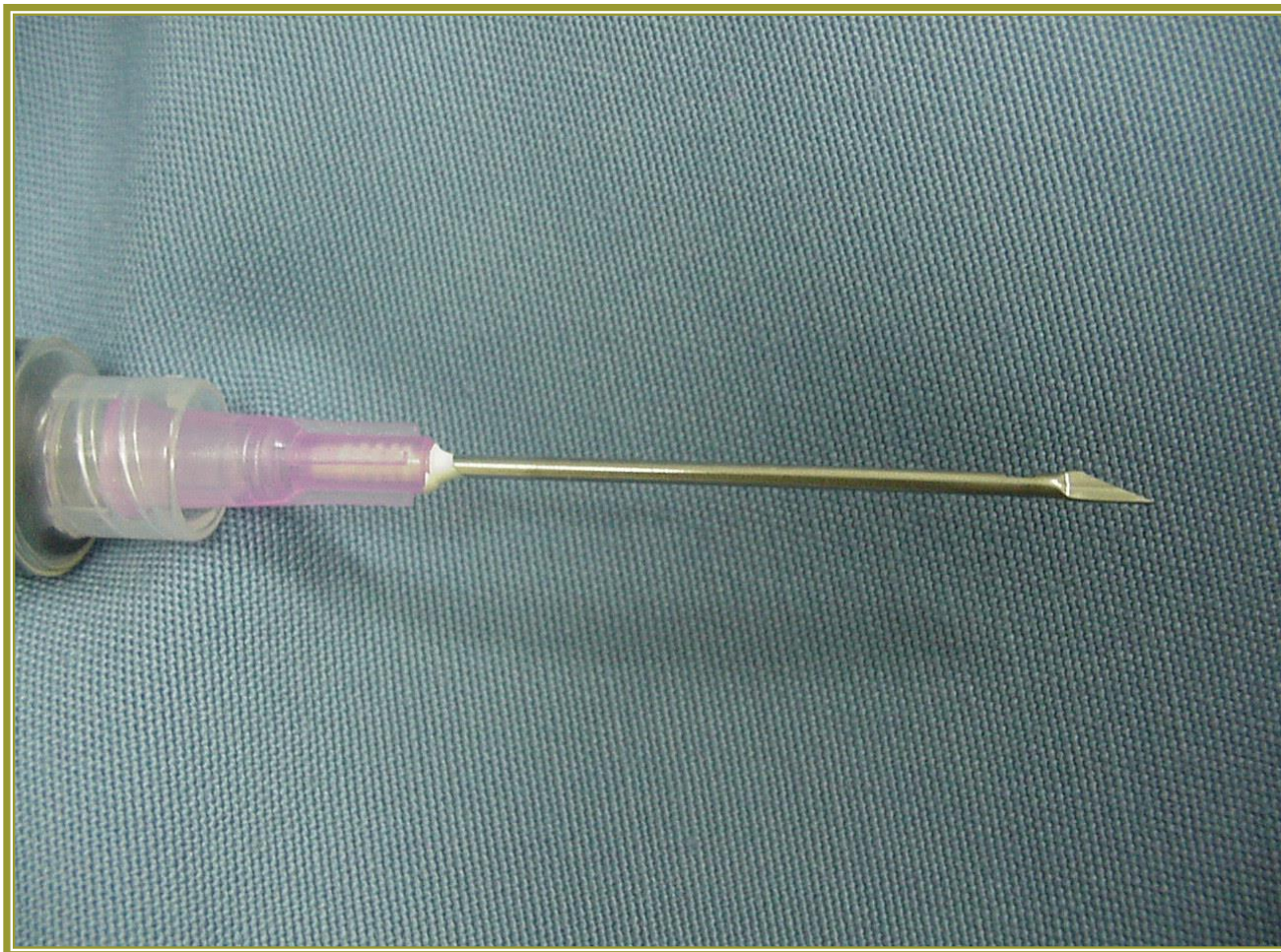
- ✓ Lipoaspiração (Coleman et al., 1991)

Subcision – técnica cirúrgica originalmente descrita por Orentreich (1995), no tratamento de depressões da pele.

Tratamento do FEG – descrito por Hexsel e Mazzuco, 2000.



Subcision



Format: Abstract ▾

Send to ▾

[Plast Reconstr Surg Glob Open](#). 2018 May 18;6(5):e1771. doi: 10.1097/GOX.0000000000001771. eCollection 2018 May.

Treatment of Dimpling from Cellulite.

[Amore R¹](#), [Amuso D¹](#), [Leonardi V¹](#), [Sbarbati A²](#), [Conti G²](#), [Albini M³](#), [Leva F³](#), [Terranova F⁴](#), [Guida A⁴](#), [Gkritzalas K⁵](#), [Gavashely L⁶](#), [Velichenko R⁶](#).

Author information

- 1 University of Palermo, Master of Techniques of Aesthetic Medicine and Wellness, Palermo, Italy.
- 2 Department of Neurosciences, Biomedicine and Movement Sciences, University of Verona, Verona, Italy.
- 3 ICAMP - Marconi University, Segrate - Milano, Italy.
- 4 SIMEO - University of Camerino, Master of Aesthetic Medicine, Roma, Italy.
- 5 Al Najat Clinical Center, Salmiya, Kuwait.
- 6 Academy of International Internships Liya Gavashely, Moscow, Russia.

Abstract

BACKGROUND: Cellulite can be seen on the skin in widespread alterations of the skin surface and dimpling. The purpose of this study was to assess the effectiveness and safety of the manual subcision technique to treat dimpling from cellulite, using a specific class IIA medical device (Celluerase).

METHODS: The multi-center observational study assessed 200 women treated in a single session for different dimpling, using manual subcision administered by Celluerase. Aesthetic outcomes were evaluated by the authors, and the patients assessed satisfaction levels.

RESULTS: Two hundred women between 20 and 55 years were treated. The medical evaluation of patients saw improvements with an average score of 8.1, whereas the subjective evaluation by patients gave an average improvement score of 7.8. Adverse events were reported.

DISCUSSION: Women have septa orientation at right angles to the skin surface, and those with cellulite have an irregular septa conformation, with some septa being hypertrophic-thickened, and others being narrowed-lysed. Magnetic resonance imaging has confirmed that cellulite depressions are associated with a significant increase of thickness of underlying subcutaneous fibrous septa. Subcision has immediate results because it eliminates traction on the skin.

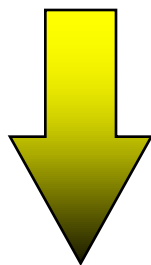
CONCLUSION: The study has shown the effectiveness and safety of the manual subcision in the treatment of dimpling. The device used, designed specifically for this technique, has shown itself to be very helpful and effective in terms of practical use, aesthetic outcome and safety, with various advantages compared with other commonly used devices.



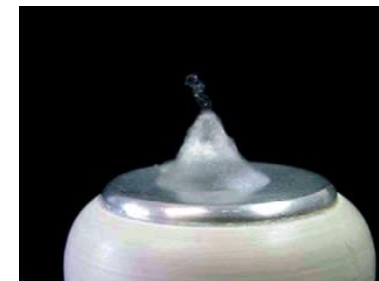
ULTRASSOM

Calibração

Energia Elétrica



Energia Mecânica



Teste da cavitação

nebulização - 1,3 a 1,5 Wcm^{-2}



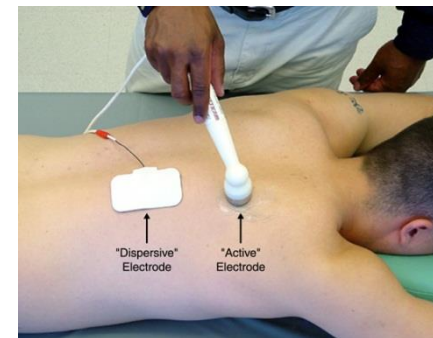
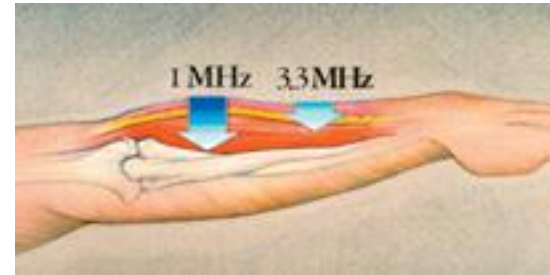
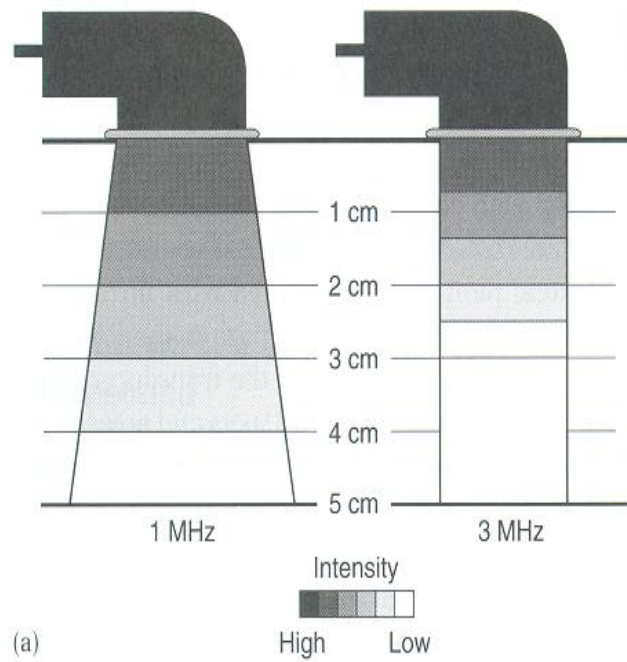
Parâmetros do UST

- Frequência 1.0, 3.0 e 5 mhz
- Intensidade 0.01 a 2.5 wcm⁻²
- Regime de pulso contínuo e/ou pulsado
- Ciclos de repetição 16, 48 e 100 hz
- Sistemas de controle
- Modulações

Seleção de Dose do UST depende:

- Ação terapêutica
- Área a ser irradiada
- Tempo de aplicação
- Profundidade do tecido
- Frequência do ust
- Regime do pulso

Ultrassom



Efeito Biológico

- Absorção da energia
- Frequência da terapia
- Intensidade
- Tempo de aplicação

Ultrassom - Fonoforese

- Enzimas podem ser desativadas
- Mudança na conformação tridimensional da enzima

Tirrell et al. (1978) e Kashkooli et al. (1980)

Ultrassom

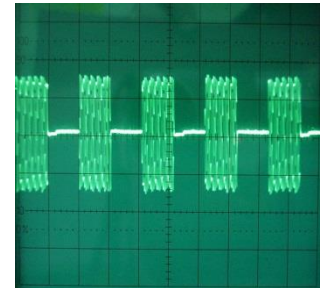
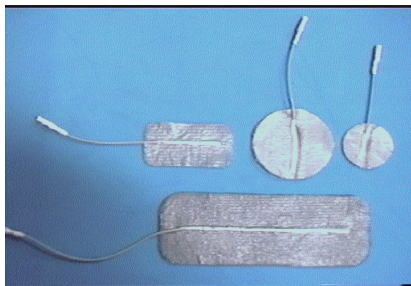
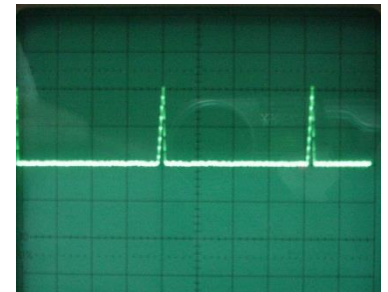
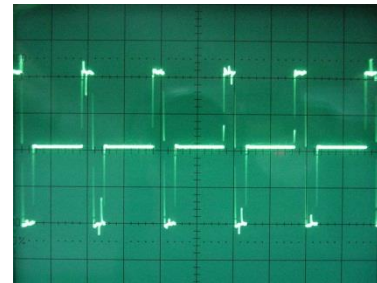
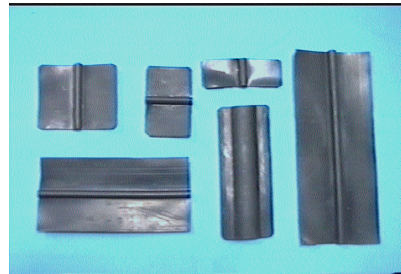
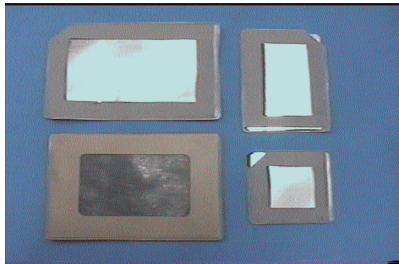
- Acelera a resolução de hematomas
- Vasodilatação
- Aumento da temperatura tecidual
 - Iniciar tratamento 24 - 36 horas após a lesão
- Terapia combinada

[Endermologia]

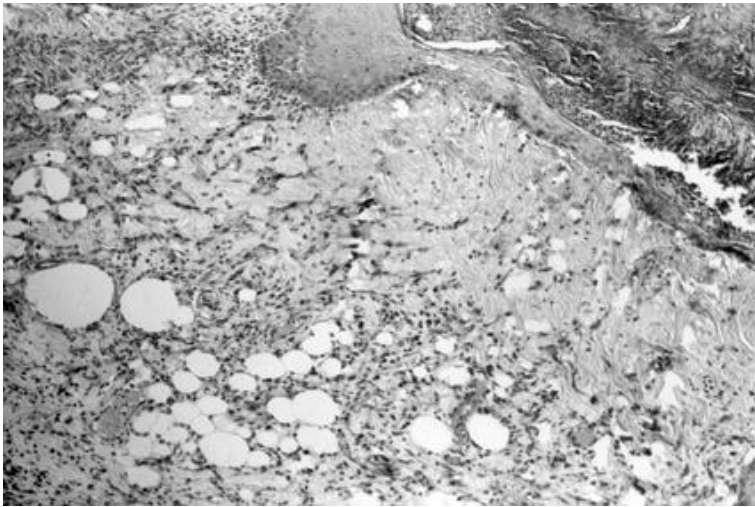
- **Massagem mecânico-assistida, composta de rolamento (p+) e sucção (p-).**
 - **Desenvolvida na França, déc. 70 para tratamento de cicatrizes aderentes.**
 - **Efetivo no tratamento do FEG (Collis et al., 1999)**
-
-



Eletroterapia



Corrente Polarizada

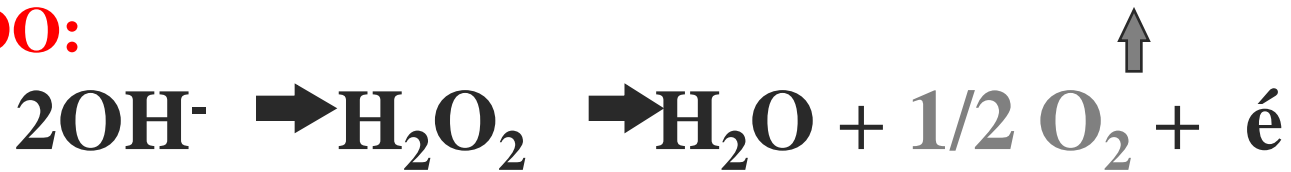




CÁTODO:



ÂNODO:



■ Pólo negativo

- Atrai água
- Estimulante
- Produz NaOH
- Aumenta pH
- N. Liquefação

■ Pólo positivo

- Repele água
- Anestésico
- Produz HCl
- Diminui pH
- N. Coagulação



Iontoforese

Condições Básica:

- A droga tem que ser polarizada
- Eleição dos eletrodos
- Corrente?

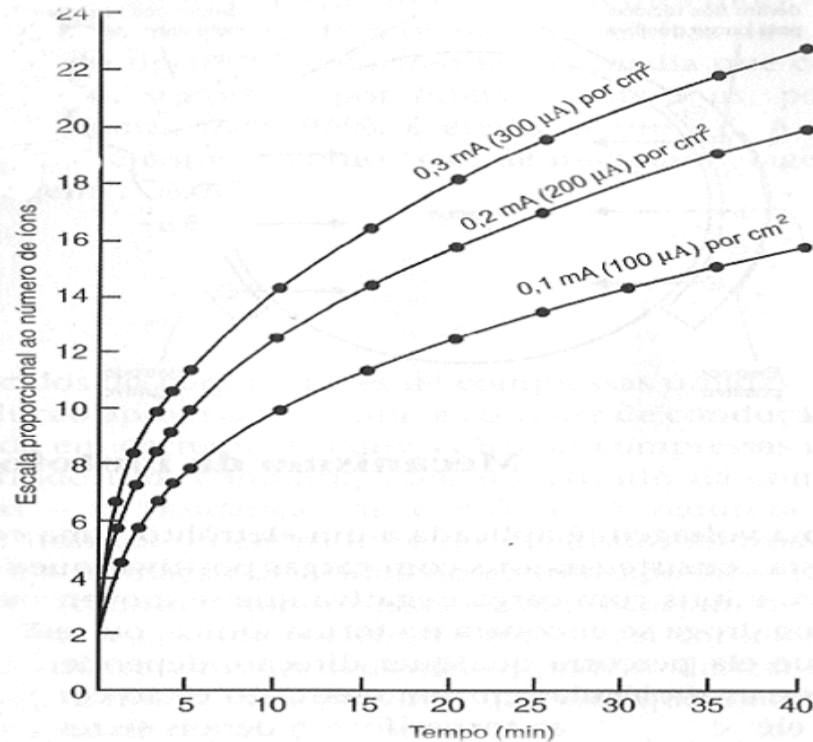
DROGA (+) > ELETRODO (+)

DROGA (-) > ELETRODO (-)

Iontoforese

O número de íons introduzidos nos tecidos é proporcional à raiz cúbica do produto do tempo e da densidade de corrente, ou seja, para 100 μA a corrente que passa por 5 min = 500; raiz cúbica de 500 = 7,94. Outros pontos são encontrados de modo similar.

Ilustração do número de íons conduzidos para dentro dos tecidos em determinado tempo.



Iontoforese

Produto	Polaridade	Concentração	Ações
<i>Salicilato</i>	-	2%	analgésico, descongestionante
<i>Cloreto de Cálcio</i>	+	2%	antiespasmódico
<i>Iodo</i>	-	4%	esclerolítico, bactericida
<i>Cloreto de Sódio</i>	-	2%	esclerolítico
<i>Citrato de Potássio</i>	-	2%	antiinflamatório
<i>Hialuronidase</i>	+		antiedematosa
<i>Thiomucase</i>	-		despolimerizante

Iontoforese

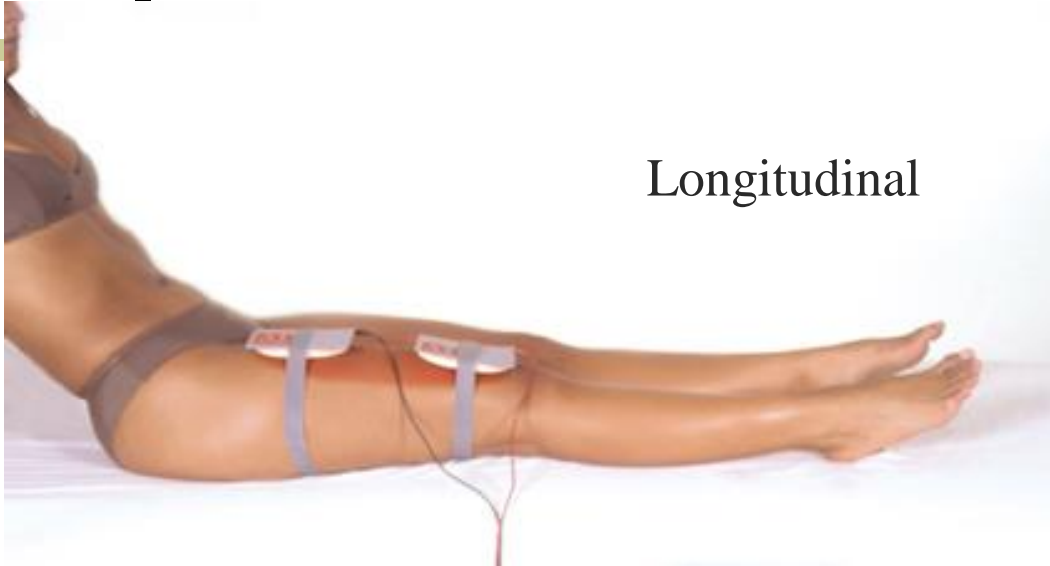
- Vias de penetração
 - Folículo piloso
 - Glândula sudorípara
 - Glândula sebácea
 - Poros

Mimmo (1992)

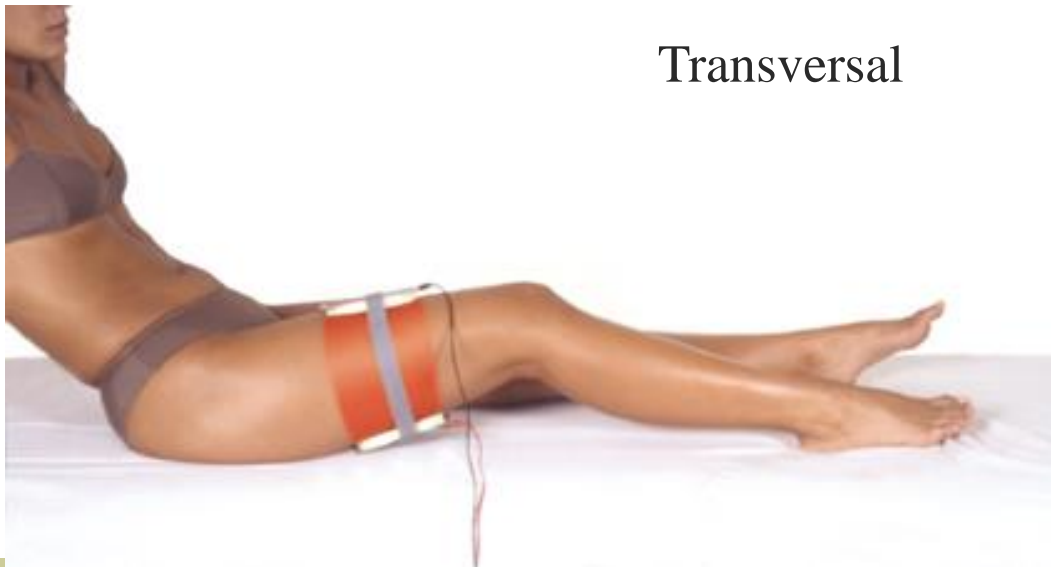
Iontoforese

- A penetração depende:
 - Massa e valência da substância
 - Intensidade da corrente
 - Tempo de aplicação
 - Variações eletrosmóticas
 - Solvente
 - Tamanho do eletrodo

Iontoforese



Longitudinal



Transversal

Iontoforese

- A droga age em estruturas profundas sob o local de aplicação.

Wadsworth et al., 1980; Kahn, 1994; Demirtas e Omer, 1998

- Concentrações mais elevadas sob o local da aplicação, quando comparada à aplicação sistêmica.

Glass et al., 1980

Propaganda



Gabinete Ionoster

O aparelho mais eficaz para redução de medidas. Com inversor automático de polaridade e temporizador.

Iontoforese

- Eletrodo ativo de menor tamanho
- Colocação dos eletrodos transversais
- Bom acoplamento dos eletrodos
- Tempo de aplicação ± 8 minutos
- Não utilizar o inversor de polaridade
- Concentrações baixas da droga
- Densidade de corrente $< 0,1 \text{ mA/cm}^2$

Iontoforese

- Vantagens:
 - Ausência de efeitos colaterais
 - Ação localizada da droga
 - Ação mais prolongada
 - Ações polares da corrente

Radiofrequência

- Monopolar ou Multipolar
- ✓ Ponteira hexapolar = 6 eletrodos e dois pólos elétricos, aquecimento rápido e uniforme
- ✓ Tratamento de baixa e média profundidade

(27,12 MHz)



Radiofrequência

- Glicerina farmacêutica para acoplamento e deslizamento;
- Termômetro de IR
- Temperatura de 40°C a 43°C na epiderme equivale a +3° em tecidos subjacentes: 43°C a 46° C na derme e subcutâneo
- Manutenção de 10 a 12 minutos por área de 400cm²
- Pressão contínua, movimento ritmado

Radiofrequência

- ✓ N°de sessões /frequência
 - 12 sessões
 - 1 vez por semana
 - Possíveis resultados a partir da 6ª sessão
 - 2 sessões por mês durante 3 meses
 - 1 sessão por mês durante 2 meses
 - Intervalo
-
- ✓ Programa de manutenção

Effect of controlled volumetric tissue heating with radiofrequency on cellulite and the subcutaneous tissue of the buttocks and thighs.

Emilia del Pino M, Rosado RH, Azuela A, Graciela Guzmán M, Arquielles D, Rodríguez C, Rosado GM.

Dermatology Surgeons, Hospital Angeles del Pedregal, México, D F. emiliadelpino@att.net.mx

Abstract

BACKGROUND: Regardless of diet and exercise, genetics plays an important part in creating puckering skin or dimples, which are difficult to hide at any age. The demand for a nonsurgical, noninvasive treatment of cellulite has inspired some manufacturers to invest in a new age of sophisticated devices and treatment therapies to repair the skin and improve contours. Although many of these new choices have demonstrated a smoothing effect (following a multitude of treatments), the objective documentation has in most cases been limited to biopsies, circumference measurements, and photographic evidence.

HYPOTHESIS: We believe that the application of noninvasive high-energy radiofrequency (RF) to the skin of the thigh and buttocks heats the subcutaneous adipose tissue, causing collagen fibers to contract. The resulting impact to the subcutaneous tissue and collagen is expected to improve the skin's external architecture. Given that the subcutaneous tissue and adipose tissue are difficult to evaluate through histological methods, this investigation seeks to demonstrate the changes that occur when applying 2 treatments of high-energy RF on the subcutaneous tissue of thighs and buttocks utilizing real-time ultrasound image scanning.

MATERIALS AND METHODS: Twenty-six healthy female patients (ages 18 to 50) with visible bilateral cellulite (grade 1 to 3) on either the buttocks and/or thighs received 2 treatment sessions (15 days apart) of unipolar RF using the Accent RF System (Alma Lasers Inc). The system utilizes a unipolar RF applicator that is electrically cooled to aid in patient comfort during the treatment. Appropriate energy was set and the treatment was delivered in 3 passes of 30 seconds each. Evaluation of the thickness of the subcutaneous tissue on buttocks and thighs took place before the first treatment, second treatment, and 15 days following the second treatment with a with real-time scanning image ultrasound (Philips Medical Systems). Clinical improvement was objectively evaluated through comparative pre- and post-treatment measurements of the distance between the stratum corneum to the Camper's fascia and from the stratum corneum to the muscle. The study also evaluated the structure and changes of the collagen (thickening and realignment of septae) resulting from 2 treatments of RE Photography was used to document contour and superficial changes.

RESULTS: From the measurements of the distance between the stratum corneum to the Camper's fascia and from the stratum corneum to the muscle we were able to demonstrate that 68% of the patients presented a contraction of the volume of approximately 20%.

CONCLUSIONS: Based on the demonstrated results with real-time ultrasound scanning, we have observed that 2 RF treatments on the subcutaneous tissue of the buttocks and thighs provide a volumetric contraction effect in the majority of patients. This validates the primary hypothesis of our protocol and establishes that the RF energy works on the connective tissue of the subcutaneous adipose tissue. This effect should be the same on any other body part.

J Cosmet Laser Ther. 2010 Apr;12(2):81-6. doi: 10.3109/14764171003706133.

Non-invasive therapy of wrinkles and lax skin using a novel multisource phase-controlled radio frequency system.

Elman M, Vider I, Harth Y, Gottfried V, Shemer A.

Beit Harofim Medical Center, Holon, Israel. elman1@bezeqint.net

Abstract

Abstract The last few years have shown an increased demand for non-invasive skin tightening to improve body contour. Since light (lasers or intense pulsed light sources) has a limited ability to penetrate deep into the tissue, radio frequency (RF) modalities were introduced for the reduction of lax skin to achieve skin tightening and body circumference reduction. This study presents the use of the novel 3DEEP technology for body contouring. 3DEEP is a next generation RF technology that provides targeted heating to deeper skin layers without pain or other local or systemic side effects associated with the use of the earlier generation RF systems available today. The study included 30 treatment areas on 23 healthy volunteers at two sites. The treatment protocol included four weekly and two bi-weekly (n= 6) treatments on different body areas. Results were evaluated by standardized photography and by circumference measurements at the treatment area, and were compared to changes in body weight. Significant improvement could be observed in wrinkles and skin laxity, and in the appearance of stretch marks and cellulite. Some changes appeared as early as after a single treatment. Circumference changes of up to 4.3 cm were measured.

PMID: 20331345 [PubMed - indexed for MEDLINE]

[Dermatol Ther.](#) 2009 Jan-Feb;22(1):74-84. doi: 10.1111/j.1529-8019.2008.01218.x.

A multicenter study of cellulite treatment with a variable emission radio frequency system.

[van der Lugt C](#), [Romero C](#), [Ancona D](#), [Al-Zarouni M](#), [Perera J](#), [Trelles MA](#).

Alizonne Preventive and Cosmetic Medicine, Meijel, Holland.

Abstract

Radio frequency (RF) systems have been reported as producing electrothermally mediated and subcutaneous effects. The present study evaluates a new approach to treat cellulite with a bipolar RF device. The buttocks of 50 patients were treated, 10 from each of five multinational centers with a novel bipolar RF technology set at 6 J/cm³, which changes its frequency between 0.6 and 2.4 MHz according to impedance of tissue. Twelve weekly sessions were given for 12 minutes on each buttock, with a treatment end point of 42 degrees C external skin temperature. Cellulite changes and tissue condition were assessed before and immediately after the first session, before the final 12th session, and 2 months thereafter. The patient Satisfaction Index was recorded. Objective evaluation involved clinical photography, three-dimensional optical skin surface measurement, and histological findings. Almost all patients noted improvement of cellulite and body silhouette at the final session, which slightly decreased at the 2-month assessment. Improved skin appearance was objectively detected. Histological findings following the first session showed reactive edema and lysis of adipocyte membranes, possibly implicated in the final effects achieved. The RF technology used in the present multicenter study improved the general aspect of skin and cellulite, with high patient Satisfaction Index. Maintenance sessions might lead to even better and longer-lasting results.

PMID: 19222519 [PubMed - indexed for MEDLINE]

HOT TOPICS

A multicenter study of cellulite treatment with a variable emission radio frequency system

CLAUDIA VAN DER LUGT*, CARMEN ROMERO†, DVORA ANCONA‡, MARWAN AL-ZAROUNI§, JOANET PERERA¶, & MARIO A. TRELLES†

**Alizonne Preventive and Cosmetic Medicine, Meijel, Holland, †Instituto Médico Vilafortuny/Antoni de Gimbernat Foundation, Cambrils, Spain, ‡Centro Medico JUVA, Milán, Italy, §Vilafortuny Laser Center for Dentistry and Aesthetic Plastic Surgery, Dubai, UAE, and ¶Centro Dermatológico Estético, Alicante, Spain*

ABSTRACT: Radio frequency (RF) systems have been reported as producing electrothermally mediated and subcutaneous effects. The present study evaluates a new approach to treat cellulite with a bipolar RF device. The buttocks of 50 patients were treated, 10 from each of five multinational centers with a novel bipolar RF technology set at 6 J/cm³, which changes its frequency between 0.6 and 2.4 MHz according to impedance of tissue. Twelve weekly sessions were given for 12 minutes on each buttock, with a treatment end point of 42°C external skin temperature. Cellulite changes and tissue condition were assessed before and immediately after the first session, before the final 12th session, and 2 months thereafter. The patient Satisfaction Index was recorded. Objective evaluation involved clinical photography, three-dimensional optical skin surface measurement, and histological findings. Almost all patients noted improvement of cellulite and body silhouette at the final session, which slightly decreased at the 2-month assessment. Improved skin appearance was objectively detected. Histological findings following the first session showed reactive edema and lysis of adipocyte membranes, possibly implicated in the final effects achieved. The RF technology used in the present multicenter study improved the general aspect of skin and cellulite, with high patient Satisfaction Index. Maintenance sessions might lead to even better and longer-lasting results.

Carboxiterapia

- ✓ Roberts (1997) -infusão excessiva de CO₂ pode desencadear aumento da acidez do sangue com aumento da pressão arterial, taquicardia, estímulo para início do quadro de epilepsia e até infarto.
- ✓ Complicação rara - embolia gasosa (presença de gás dentro de estruturas vasculares) por dióxido de carbono, neste estudo específico durante uma cirurgia laparoscópica (Berger et al., 2005, Muth and Shank, 2000; Yao, et al., 2000; Locali e Almeida, 2006; Fors et al. 2010; Taylor, Hoffman, 2010).
- ✓ Outras reações adversas decorrentes da utilização de técnicas invasivas são alergia e ou infecção (Rosina, 2001, Polacow et al., 2004 e Chorilli, 2005).

Aesthetic Plast Surg. 2010 Apr;34(2):239-43. doi: 10.1007/s00266-009-9459-0. Epub 2010 Jan 29.

Carbon dioxide therapy in the treatment of cellulite: an audit of clinical practice.

Lee GS.

TLC Medical Practice Pte. Ltd, Holland Village, Singapore, Singapore. enquiries@tlclifestyle.com

Abstract

BACKGROUND: The clinical practice of using carbon dioxide therapy for localized adiposities was audited over a 4-year period.

METHODS: Patients receiving physical, dietary, or drug concurrent therapy were excluded from the audit. Original measurements in terms of mean +/- standard error of the mean (SEM) were compared with those obtained after five sessions.

RESULTS: This series included 101 women who underwent abdominal therapy. Significant reduction ($p < 0.05$) in mean upper, mid, and lower abdomen circumference was experienced by all three age groups: respectively, 1.8 +/- 0.5, 1.6 +/- 0.4, and 2.1 +/- 0.3 cm in the 20- to 29-year-old group, 1.6 +/- 0.4, 2.3 +/- 0.3, and 2.1 +/- 0.3 cm in the 30- to 39-year-old group, and 2.0 +/- 0.4, 2.5 +/- 0.4, and 2.6 +/- 0.4 cm in the 40- to 50-year-old group. For 57 women who underwent localized thigh therapy (27 in the 20- to 29-year-old group, 18 in the 30- to 39-year-old group, and 12 in the 40- to 50-year-old group), thigh circumference was significantly reduced in the right versus left thigh: respectively, 1.6 +/- 0.3 versus 1.5 +/- 0.2 cm, 1.1 +/- 0.3 versus 1.1 +/- 0.3 cm, 1.6 +/- 0.3 versus 1.5 +/- 0.4. Weight loss was significant for older women who underwent abdominal therapy: 1.3 +/- 0.2 kg in the 30- to 39-year-old group ($n = 43$) and 1.3 +/- 0.2 kg in the 40- to 50-year-old group ($n = 29$). Older women who underwent thigh therapy also recorded significant weight reduction: 0.9 +/- 0.4 kg in the 30- to 39-year-old group ($n = 18$) and 1.6 +/- 0.3 kg in the 40- to 50-year-old group ($n = 12$). The results for 10 men were not significant.

CONCLUSION: These results agree with those reported originally and demonstrate that carboxytherapy is safe and effective.

Mulher morre durante tratamento de carboxiterapia no Rio

6/fev/2010 . 16:52 | Autor: Wolmar Carregozzi

do Extra Online

por Isabella Guerreiro

Uma mulher morreu durante um procedimento estético numa clínica em Rio das Pedras, Zona Oeste. Siomara Lima dos Santos Reichel, de 49 anos, teve uma parada cardíaca quando era submetida a um tratamento de carboxiterapia, que usa gás carbônico (CO₂) para acabar com celulites e estrias. O delegado adjunto da 32ª DP, Leandro Aquino, instaurou inquérito para investigar a hipótese de uma falha no procedimento estético. A responsável pelo procedimento, a fisioterapeuta Marina de Oliveira Baptista, será indiciada por homicídio culposo, quando não há intenção de matar.

O Centro Médico e Estético, uma sala comercial de um prédio na Rua Pinheiros 46, foi lacrado após familiares da vítima avisarem à polícia. Segundo o Sindicato dos Médicos, o estabelecimento funcionava sem alvará. Familiares de Siomara estiveram na 32ª DP (Taquara).

Segundo a polícia, Siomara realizava tratamentos estéticos com a fisioterapeuta desde junho de 2009 e já havia feito seis sessões de carboxiterapia durante o mês de janeiro na clínica de Rio das Pedras.

Em depoimento, Marina contou que chamou a médica Valéria Pinto Mota, dona do estabelecimento, quando Siomara começou a sentir dor no peito e mal estar. Em seguida, a paciente teve convulsões e sua frequência respiratória diminuiu. A médica tentou reanimar Siomara, e uma ambulância foi chamada, mas a paciente não resistiu.

O diretor de Patrimônio do Sindicato dos Médicos, Ivan Arbex, também esteve na delegacia e informou que a clínica funcionava sem alvará. Ele,



O Centro Médico e Estético, uma sala comercial de um prédio na Rua Pinheiros 46, foi lacrado após familiares da vítima avisarem à polícia. Segundo o Sindicato dos Médicos, o estabelecimento funcionava sem alvará



Siomara Lima dos Santos Reichel, de 49 anos, teve uma parada cardíaca quando era submetida a um tratamento de carboxiterapia,