

Esperienze Chirurgiche nelle Ossificazioni Cutanee

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**1° Meeting Italiano congiunto su FOP e POH
20-21 marzo 2009 Cerignola (FG)-Italy**

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Istituto Ortopedico Rizzoli, Bologna-Italy*



Osteoma Cutis

DEFINIZIONE

neoformazione ossea spontanea
all'interno della cute

- **primitivo:** nessuna lesione cutanea pre-esistente
- **secondario:** reazione metaplasica a
 - infiammazione
 - trauma
 - neoplasia

Osteoma Cutis

PRIMITIVO

1) Associato a osteodistrofia ereditaria di Albright

- Pseudoipoparatiroidismo
(PTH↑, ipocalcemia/ipерfosfatemia)
- Pseudo-pseudoipoparatiroidismo
(no ▲ laboratorio)

➡ cattiva prognosi

2) Non associato a osteodistrofia ereditaria di Albright

- Osteomi cutanei multipli al volto
- Osteoma singolo
- Osteomi diffusi
- Osteoma Congenito a Placca

➡ buona prognosi

Osteoma Cutis

Osteodistrofia Ereditaria di Albright

- Obesità
- Disabilità
- Statura bassa
- Faccia rotonda
- Calcificazione G.B.
- Osteomi cutanei
- Accorciamento IV/V MTC



Osteoma Cutis

SECONDARIO

- **Processi Infiammatori:**
 - acne vulgaris
 - dermatomiosite
 - sclerodermia
- **Cicatrici**
- **Neoplasie:**
 - Carcinoma a cellule basali
 - Melanoma desmoplastico
 - Pilomatricoma
 - Siringoma condroide
 - Emangioma

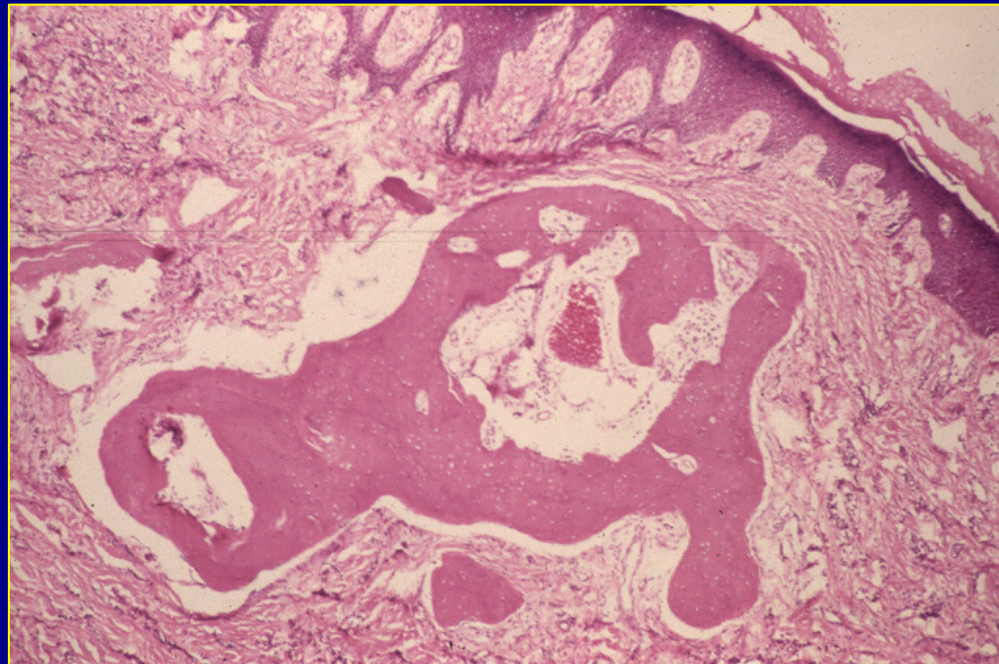
Osteoma Cutis

PATOFISIOLOGIA

Neoformazione ossea nella cute e nei tessuti molli
attraverso una ossificazione mesenchimale senza
precursori cartilaginei

DD

Calcinosi Pseudotumorale: depositi di Sali di Calcio



Osteoma Cutis

EPIDEMIOLOGIA

- **Frequenza: rara**
 - primitivo 20 %
 - secondario 80 %
- **Mortalità/Morbilità:** fastidio/danno estetico
cattiva prognosi (osteo. ered. di Albright)
- **Sesso:** nessuna particolare predisposizione
osteodistrofia ereditaria di Albright F/M=2/1
→ secondario ad acne vulgaris > F
- **Etnia:** nessuna particolare predisposizione
- **Età:** può insorgere a qualsiasi età

Osteoma Cutis

CLINICA

Storia:

- aree cutanee distrofiche
- osteodistrofia ereditaria di Albright

Tumefazione:

- cutanea/sottocutanea
- singola/multipla
- consistenza dura “come la pietra”
- nodulare/placche
- volto/cuoio capelluto/estremità/dita/regione sub ungueale

Osteoma Cutis

DIAGNOSI DIFFERENZIALE

- Tumori dei tessuti molli superficiali
- Corpi estranei
- Miosite Ossificante
- Ossificazioni eterotopiche secondarie
- Gotta
- Calcinosi pseudotumorale

Osteoma Cutis

CLINICA



Osteoma Cutis

Sarcoma Sinoviale



Osteoma Cutis

Dermatofibroma



Osteoma Cutis

Corpo Estraneo



Osteoma Cutis

Gotta



Osteoma Cutis

Diagnosi

**La radiologia
convenzionale
definisce le lesioni
ma non è diagnostica**



Calcinosi Pseudotumorale



Calcificazioni post-traumatiche



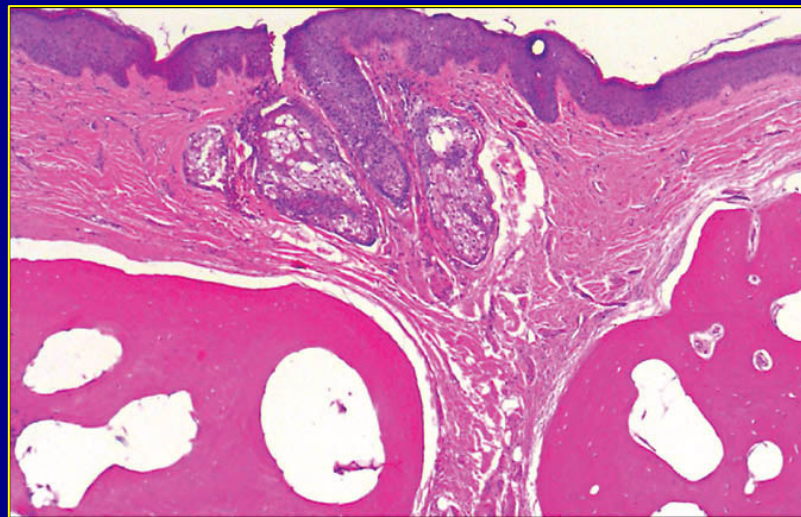
Osteoma Cutis

DIAGNOSI

ESAME ISTOLOGICO

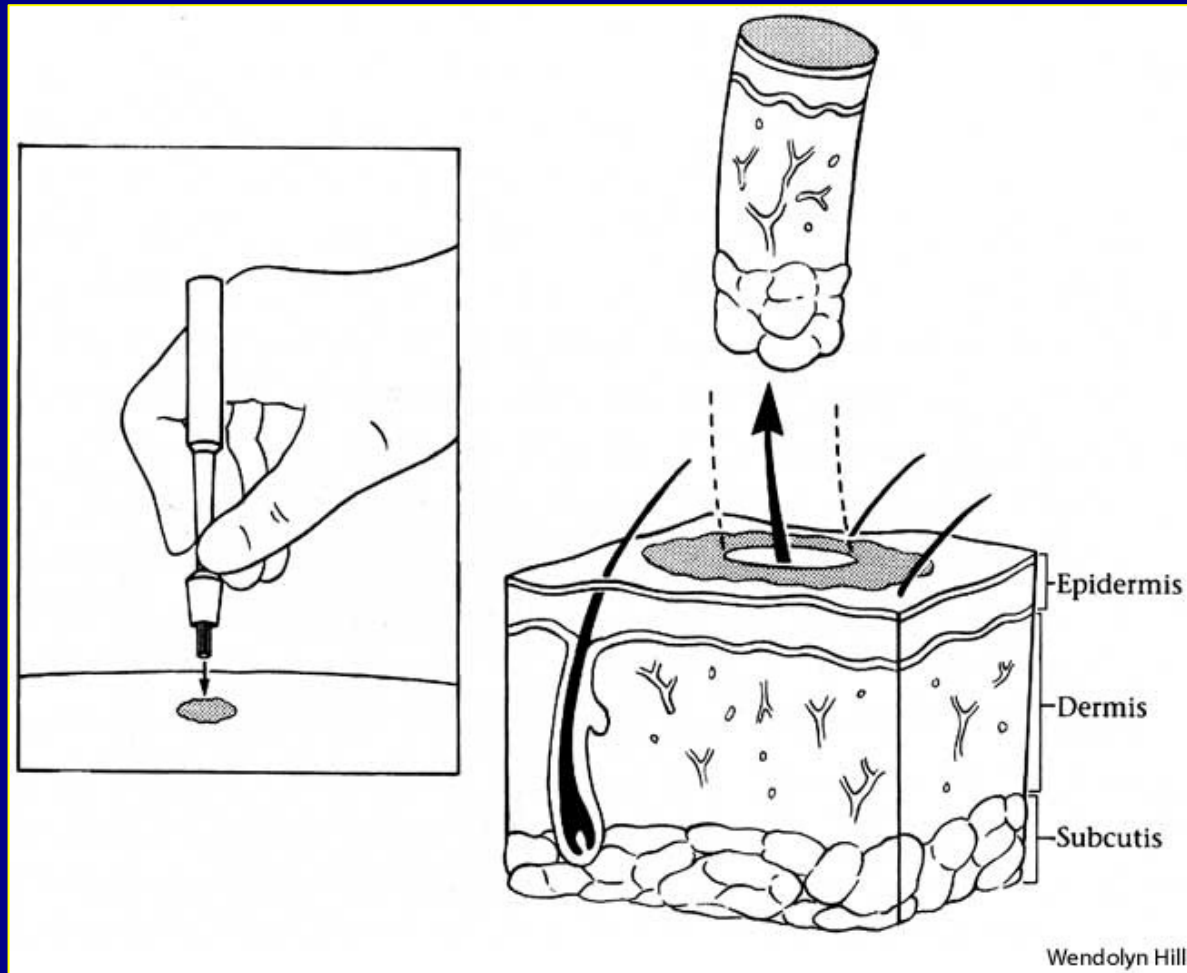


- Punch Biopsy
- Biopsia escissionale: $1\text{cm} < \text{lesioni} < 3\text{cm}$
- Agobiopsia ecoguidata: $\text{lesioni} > 3\text{cm}$



Osteoma Cutis

Punch Biopsy

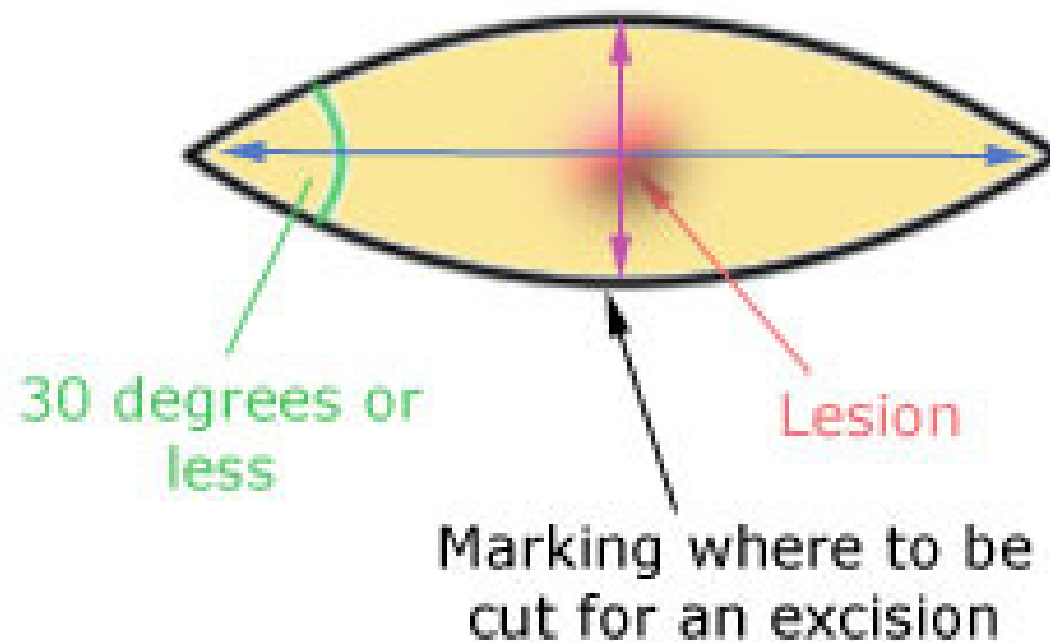


Osteoma Cutis < 3cm

Biopsia Escissionale



Usual Dimensions of a
Surgical Excision

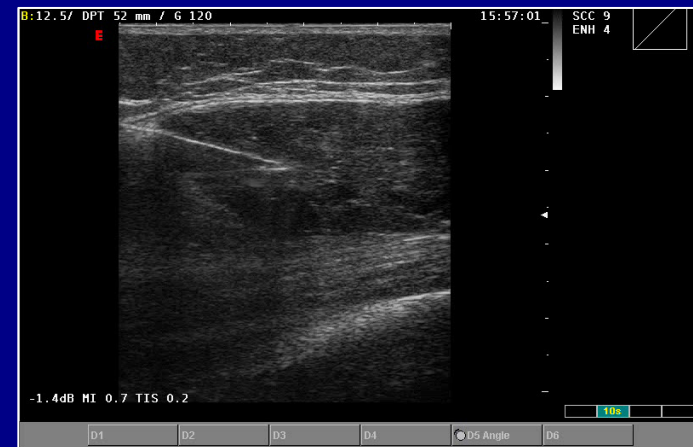
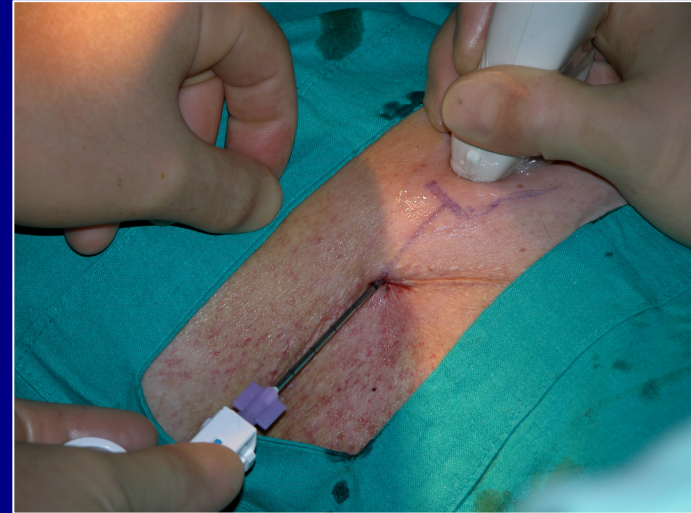
L 3 or 4 times W



Osteoma Cutis > 3cm

Agobiopsia Ecoguidata

-  rischio di contaminazione
- morbilità
- costo
-  accuratezza diagnostica
- sicura
- facile



lungo la linea di incisione che verrà utilizzata per l'escissione definitiva



Osteoma Cutis

TRATTAMENTO

The screenshot shows a Windows Internet Explorer browser window displaying the PubMed website. The address bar shows the URL <http://www.ncbi.nlm.nih.gov/sites/entrez>. The search bar contains the text "osteoma cutis AND surgery". The results page shows 41 items, with the first three displayed. The first result is titled "Diagnostic and mutational spectrum of progressive osseous heteroplasia (POH) and other forms of GNAS-based heterotopic ossification" by Adegbite NS, et al. The second result is titled "Miliary osteoma cutis of the face: treatment with the needle microincision-extirpation method" by Baskan EB, et al. The third result is titled "Progressive osseous heteroplasia-like heterotopic ossification in a male infant with pseudohypoparathyroidism type Ia: a case report" by Gelfand IM, et al. On the right side, there is a section for "Free full-text articles in PubMed Central" and a "Recent Activity" box showing the current search and a previous search for "osteoma cutis".

osteoma cutis AND surgery - PubMed Results - Windows Internet Explorer

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All: 41 Review: 3

Items 1 - 20 of 41 Page 1 of 3 Next

1: [Diagnostic and mutational spectrum of progressive osseous heteroplasia \(POH\) and other forms of GNAS-based heterotopic ossification.](#)
Adegbite NS, Xu M, Kaplan FS, Shore EM, Pignolo RJ.
Am J Med Genet A. 2008 Jul 15;146A(14):1788-96.
PMID: 18553568 [PubMed - indexed for MEDLINE]
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2: [Miliary osteoma cutis of the face: treatment with the needle microincision-extirpation method.](#)
Baskan EB, Turan H, Tunali S, Tokar SC, Adim SB, Bolca N.
J Dermatolog Treat. 2007;18(4):252-4.
PMID: 17671887 [PubMed - indexed for MEDLINE]
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3: [Progressive osseous heteroplasia-like heterotopic ossification in a male infant with pseudohypoparathyroidism type Ia: a case report.](#)
Gelfand IM, Hub RS, Shore EM, Kaplan FS, Dimeglio LA.
Bone. 2007 May;40(5):1425-8. Epub 2006 Dec 28.
PMID: 17321228 [PubMed - indexed for MEDLINE]

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Osteoma Cutis

TRATTAMENTO

- **Trattamento conservativo:** - Acido Retinoico
 - **Trattamento chirurgico:**
 - “Punch Excision”
 - Curettage
 - Escissione
- Diagram illustrating treatment criteria for Osteoma Cutis:
- For lesions smaller than 1cm (< 1cm), the following surgical treatments are indicated:
 - “Punch Excision”
 - Curettage
 - For lesions larger than 1cm (> 1cm), the following surgical treatment is indicated:
 - Escissione

Trattamento Conservativo

Acido Retinoico

L'Acido Retinoico sembra offrire una valida opzione terapeutica non-invasiva nel trattamento dell'osteoma cutis miliare



eliminazione trans-epidermica

(solamente 4 case reports)

Treatment of multiple miliary osteoma cutis of the face with local application of tretinoin (all-*trans*-retinoic acid): a case report and review of the literature

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BACKGROUND: Multiple miliary osteoma cutis of the face represents primary extra-skeletal bone formation that arises within the skin of the face.

METHODS: A 60-year-old woman with multiple miliary osteoma cutis of the face was treated by application of 0.05% tretinoin (all-*trans*-retinoic acid) cream nightly.

RESULTS: After 3 months of therapy there were fewer papules and a decrease in size of remaining lesions. In a literature search, it was found that local application

of tretinoin was successful and achieved a decrease in the number of papules over the face in all patients with multiple miliary osteoma cutis of the face; however, the length of time to achieve response varied from a few weeks to 6 months.

CONCLUSION: It is suggested that local application of tretinoin cream should be considered in the therapy of multiple miliary osteoma cutis of the face, particularly when the lesions are small and superficial. (*J Dermatol Treat* (2001) 12: 171–174)

Received 12th December 2000
Revised 13th March 2001
Accepted 4th April 2001

Keywords: multiple miliary osteoma cutis of the face — tretinoin — treatment — review

Introduction

Multiple miliary osteoma cutis of the face represents primary extra-skeletal bone formation that arises within the skin of the face.^{1–7} Most commonly, multiple miliary osteoma cutis of the face is characterized by multiple, firm, skin-colored, small papules or nodules. There may be an association with previous acne vulgaris or tetracycline intake.^{1–7} Possible treatments for multiple miliary osteoma cutis of the face include dermabrasion, carbon dioxide continuous-wave laser, excision of individual lesions, or diphosphonates.^{3,6,8}

In a literature search, it was reported that three patients with multiple miliary osteoma cutis of the face were successfully treated by local tretinoin (all-*trans*-

retinoic acid) application.^{6,9} We describe an additional patient with multiple miliary osteoma cutis of the face who was successfully treated by local tretinoin application and review the previous reports.

Case report

A 60-year-old Caucasian woman had asymptomatic papules on her face for 1 year. There was no history of antecedent lesions, and she denied having had acne vulgaris or collagen vascular diseases. Personal and family history was unremarkable except for diabetes mellitus and hyperlipidemia, for which the patient received glibenclamide, metformin and bezafibrate. The patient denied taking tetracyclines.

Physical examination revealed multiple, firm, non-tender, flesh-colored, 2–4 mm papules symmetrically distributed over the chin and cheeks (Figure 1). The lesions were limited to the face. No other significant cutaneous findings were present.

Correspondence:

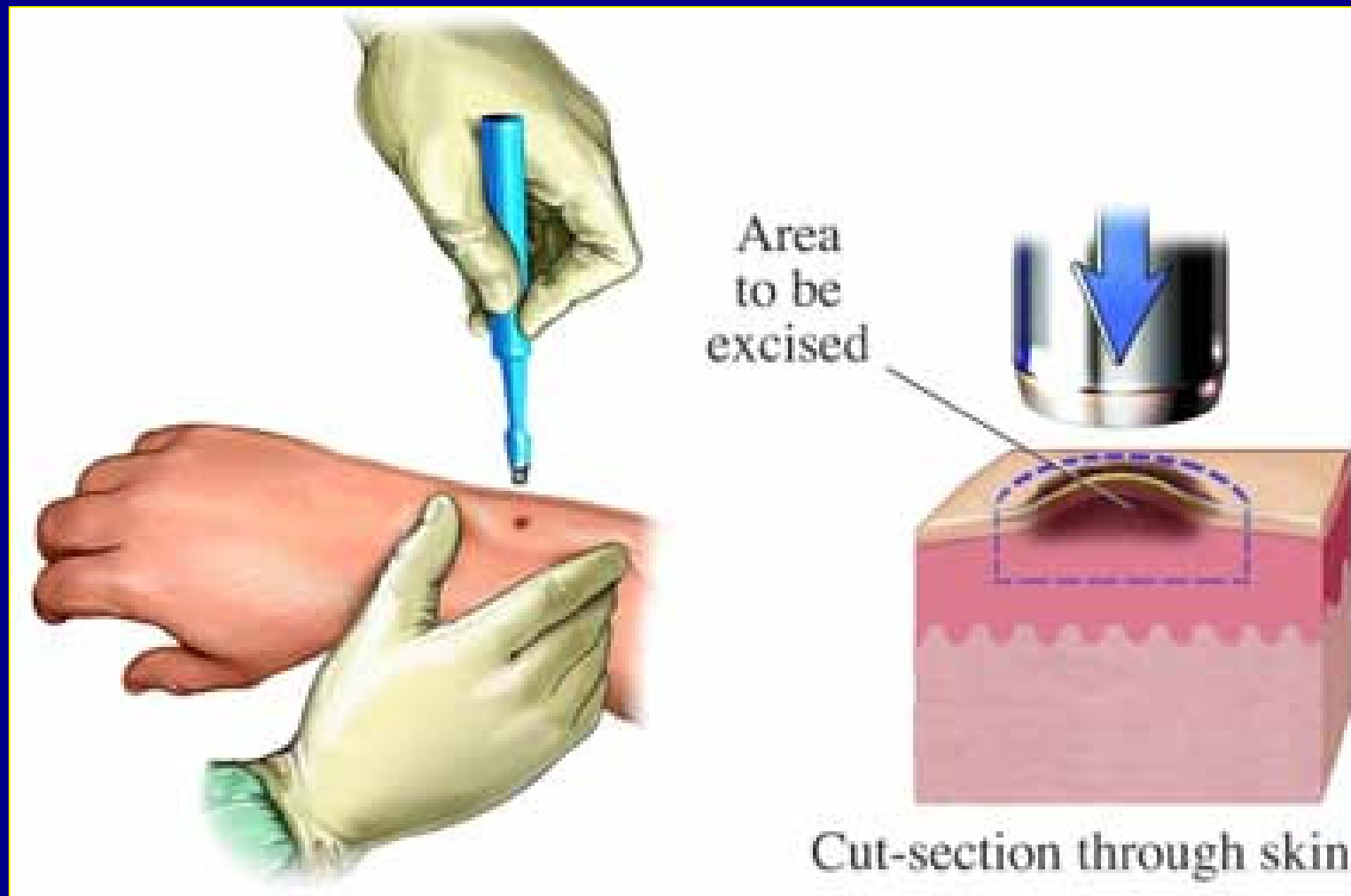
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Trattamento Chirurgico

Autore	Pts	Tecnica	Anestesia	Chiusura	Complicazioni
Fulton, JDSO 1987	3	Dermoabrasione +punch excision	blocco nervoso	I° intenzione	1 cheloide
Ochsendor, BJD 1998	1	Laser Yag +curettage	crema	II° intenzione	Ipopigmentazione?
Baginsky, DS 1999	1	Laser CO2 +curettage	infiltrazione locale	II° intenzione	no
Altman, JAAD 2001	1	Incision +curettage	infiltrazione locale	I° intenzione	Iperpigmentazione
Thielen, JEADV 2006	1	Microincision +curettage	infiltrazione locale	I° intenzione	no
Bulbul Baskan, JDT 2007	1	Microincision +curettage	crema	II° intenzione	no

Osteoma Cutis < 1cm

Punch Excision



Osteoma Cutis < 1cm Curettage (scalpel incision)

DERMATOLOGIC SURGERY

Treatment of primary miliary osteoma cutis with incision, curettage, and primary closure

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Background: Primary miliary osteoma cutis is characterized by de novo bone formation in skin without a known associated or pre-existing cutaneous disorder. These lesions often develop on the face and cause cosmetic concern.

Objective: Multiple treatments have been attempted, including topical and systemic agents and surgical techniques. The ideal treatment modality should be simple and effective with minimal side effects.

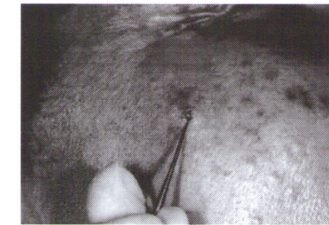
Methods: The technique of scalpel incision over visible lesions, curet extraction of bony fragments, and primary suture repair was used to remove multiple lesions of primary miliary osteoma cutis on the cheeks of an affected patient.

Results: This surgical technique resulted in a significant reduction of visible and palpable lesions and a smoother surface contour with minimal scarring.

Conclusion: This surgical technique offers a simple but effective method for removal of multiple bony fragments in primary miliary osteoma cutis with minimal side effects. (J Am Acad Dermatol 2001;44:96-9.)



Fig 2. Osteoma cutis. A nodule of bone is present in otherwise unremarkable dermis.



Altman et al 97

- Curettage: ↓ danno al derma → fibrosi minore della “punch technique”
- Chiusura per prima intenzione → migliore risultato estetico

From the Dermatology Service,^a and Department of Pathology,^b Memorial Sloan Kettering Cancer Center. Reprints not available from authors. Copyright © 2001 by the American Academy of Dermatology, Inc. 0190-9622/2001/\$35.00 + 0 16/1/108377 doi:10.1067/mjd.2001.108377

skin, consistent with osteoma cutis. A nodule of lamellar bone was present in the reticular dermis measuring 2.25 mm in greatest diameter (Fig 2). Between the concentrically arranged bone lamellae, foci of vascularized adipose tissue were present without hematopoiesis. The bone lamellae contained osteocytes and were focally rimmed by osteoclasts.

contact the underlying bone fragments (Fig 3). The incision sites were allowed to heal by second intention. Postoperative wound care consisted of hydrogen peroxide, bacitracin ointment, sun avoidance, and use of a broad-spectrum sunblock.

At a 1-month follow-up visit, the incision sites were flat but remained crusted. Therefore future treatments

resolved. The patient was pleased with the results because cosmetics could now be applied easily.

DISCUSSION

Osteoma cutis is a rare, benign skin disorder characterized by the formation of bone in skin. There are two major classes of osteoma cutis: primary and sec-

Osteoma Cutis < 1cm

pruritus, which did not require an interruption to the treatment.

The choice of therapy for treating cutaneous leishmaniasis is undoubtedly justified and influenced by the geographical, clinical and microbiological differences found in this pathology. Previous studies have shown an efficacy of intralesional treatment with pentavalent antimonial salts of 68–100%.^{1–5} Recently, Tallab *et al.*⁶ reported an overall success rate of 99.2% using sodium stibogluconate in three different treatment schedules, with the best results obtained when local infiltrations were performed weekly.

In the present study, the use of meglumine antimoniate achieved complete recovery in all the lesions, with no relapse or side-effects and with only minimal scarring at 14 lesional sites (24%) at the end of treatment. However, during the follow-up, noticeable scars remained at only six of these sites (10%). We suggest that these results are attributable to correct infiltration procedures, injections at 7-day intervals and adequate infiltration of the drug at each lesional site. Indeed, inadequate drug infiltration is probably responsible for the failure of this treatment.⁷ The technique of intralesional injection is important: the whole lesion, including the advanced edges, should be infiltrated until completely blanched, indicating the full infiltration of the nodular element. Adequate doses are also essential, not only in obtaining a quick and complete clinical and microbiological recovery, but also in avoiding the development of resistant organisms. The appearance of parasites resistant to antimonials is a potential risk of inadequate doses.^{8,9} We used meglumine antimoniate at doses of 0.5–3 mL in all but two lesions, for which a dose of 5 mL was used, but the maximum dose per visit did not exceed the recommended dose of 60–100 mg/kg for parenteral use.³

From our experience and the long follow-up in the present study, we think that intralesional meglumine antimoniate should be considered the first choice in the management of cutaneous leishmaniasis in our region. Although pentavalent antimonials are long-standing drugs in the cure of cutaneous leishmaniasis, their intralesional use has many advantages: they produce a quick therapeutic response with high rates of complete recovery, are tolerated well, have no side-effects and, last but not least, offer therapeutic cycles at a relatively low cost.

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Erbium:YAG laser-assisted treatment of miliary osteoma cutis

SIR, The term osteoma cutis denotes rare disorders with cutaneous ossification.¹ The therapy of existing osteoma is regarded as extremely difficult and there is no effective treatment to prevent the eruption of new lesions.^{2,3} There are 12 case reports of multiple miliary osteoma cutis of the face in women.^{4–6} although it has not been recorded previously in men.

A 54-year-old healthy man presented with multiple firm, non-tender, skin-coloured 1–3 mm papules on his forehead and both cheeks, which had developed progressively over 3 years with no symptoms (Fig. 1a). As in the other reported cases, no abnormalities in calcium/phosphate metabolism were detected and no inflammatory condition, e.g. acne, preceded the ossification. Histological examination of the papules showed circumscribed ossification in the mid-corium with multiple osteocytes and few osteoblasts. The laboratory analyses were unremarkable. We also treated a woman with multiple miliary osteoma cutis: her details were published earlier;⁴ both patients had requested treatment.

After topical occlusive application of prilocaine/lidocaine cream (EMLA® cream), the tissue layers covering the osteoma were gently removed by erbium:YAG laser passes (SupERB®, Baasel-Lasertechnik, 2940 nm, pulse width 200 µs, 250–300 mJ per pulse, repetition rate 5–8 Hz, spot size 2 mm). Depending on the site, three to five shots per papule were required to ablate the entire epidermis and upper dermis. Once the osteoma was uncovered it could be removed either by simple pressure or a fine curette (Fig. 1b). The lesions re-epithelialized after 7–10 days and after 12 weeks, the cosmetic result was excellent (Fig. 1c).

Osteoma cutis has no potential for malignant transformation but affected patients request treatment either to prevent the occurrence of new lesions or to remove existing ones: the former goal was not previously possible. Preventive trials with etidronate disodium (diphosphonate) were ineffective.^{2,7} A variety of surgical techniques has been used for the symptomatic removal of cutaneous osteomas, including simple incision, excision, dermabrasion or punch excision.^{1,6} Recently, the removal of digital calcinosis by carbon dioxide laser vaporization was described.⁸ Apart from the likelihood of new lesions appearing after removal, all surgical procedures risk unpleasant scarring. We therefore aimed at a precise and

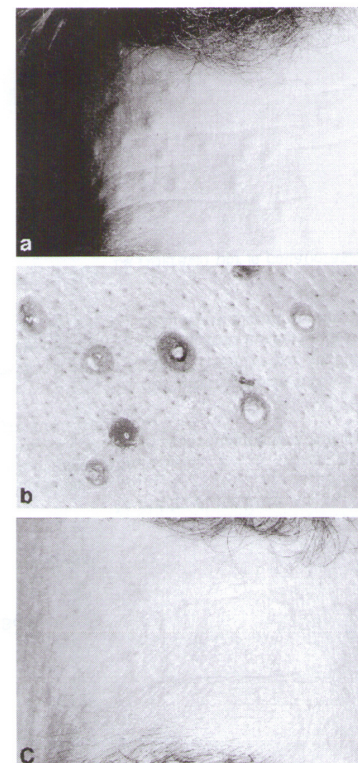


Figure 1. (a) The preoperative appearance of multiple miliary osteoma cutis on the forehead of a 54-year-old man. (b) The intraoperative appearance. (c) A good cosmetic result was evident at follow-up.

controlled removal of the osseous particles, to avoid unnecessary trauma to surrounding tissues. This was achieved using pulsed mid-infrared ablation, capable of removing both skin and bone. Among the various infrared systems which have been investigated by our group⁹ and others, the erbium:YAG laser has proved extremely useful because it has unique absorption characteristics in tissue water and collagen.¹⁰ The emission wavelength (2940 nm) of this system exactly

matches the absorption peak of tissue water, resulting in a 10-fold higher absorption than for carbon dioxide laser light.⁹ Therefore, a precise and clean ablation can be achieved, avoiding unnecessary thermal injury, including tissue shrinkage or residual necrosis. This precise ablation is unique and superior to the ablative properties of the pulsed carbon dioxide laser systems.

In both patients, laser ablation was fast and easy to perform. Although the ablation of bone tissue was possible by additional laser pulses, the exposed bony material was easily removed using small curettes. The procedure can be performed without local anaesthetic after the topical application of EMLA cream and larger areas can be treated at one time, with good patient tolerance. When reviewed after 12 weeks, the cosmetic result was excellent, with no residues of osteoma and no osteomas recurring at the treated sites within a follow-up of 24 months. The erbium:YAG laser is thus the preferred treatment for this rare disorder.

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Chronic buccal ulceration induced by nicorandil

SIR, Nicorandil (Ikorel, Rhone-Poulenc Rorer Ltd, Kent, U.K.) is a potassium channel activator used in the treatment of angina pectoris in Japan for more than 10 years. It has recently been introduced in some European countries and has been available commercially in France since the end of 1994. Nicorandil has a similar efficacy in angina pectoris to that of the currently available antianginal agents.^{1,2} Specific

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LASER YAG + CURETTAGE

Osteoma Cutis < 1cm

SURGICAL GEM

Management of Multiple Miliary Osteoma Cutis

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BACKGROUND. Multiple miliary osteoma cutis of the face is a variant of osteoma cutis that usually occurs in women with a previous history of acne vulgaris.

OBJECTIVE. To effectively treat cosmetically objectionable lesions of multiple miliary facial osteomas.

METHODS. We report a patient with multiple miliary osteoma cutis, without a previous history of acne vulgaris, and the results of treatment of these lesions with curettage and the carbon dioxide continuous-wave laser.

RESULTS. The patient had an excellent cosmetic outcome with minimal scarring and faint hypopigmentation after 3 treatment sessions.

CONCLUSION. Surgical ablative therapy remains the treatment of choice for patients with this condition, and the use of curettage and carbon dioxide laser ablation provided excellent results for our patient. To our knowledge, this approach to treatment has not been previously described.

OSTEOMA CUTIS refers to primary cutaneous ossification not related to Albright's hereditary osteodystrophy (AHO). This can occur as widespread osteomas, a single large plaque-like osteoma, a single small osteoma, or as multiple miliary osteomas of the face (MMOF).¹ MMOF affects females almost exclusively and usually occurs in young and middle-aged women in association with long-standing acne vulgaris.^{2,3} We report a woman with MMOF who had no previous history of acne vulgaris, and discuss the results of treatment of these cosmetically objectionable lesions with the carbon dioxide (CO₂) continuous-wave laser.

Case Report

A 54-year-old woman with a history of Type II diabetes noted the 2-year history of multiple asymptomatic firm papules on her forehead. She denied a previous history of acne or other inflammatory skin disorders. Her medications at the time included glipizide. A metabolic evaluation including serum calcium and phosphorus were within normal limits, and a punch biopsy performed at an outside institution was consistent with osteoma cutis. The patient found the lesions cosmetically objectionable and was referred to our center for consideration of treatment. Physical examination revealed approximately 25 firm, 1–3 mm white papules on the central forehead (Figure 1). Her skin was otherwise unremarkable. Laboratory data included normal intact serum parathyroid

hormone, urinary calcium and phosphorus. Repeat punch biopsy showed a basophilic nodule in the dermis with osteocytes and lacunae formation, consistent with lamellar bone (Figure 2).

After obtaining informed consent, a test area on the left upper forehead was treated with the CO₂ continuous-wave laser (10,600 nm, Xanar Inc., Colorado Springs, CO) under infiltrative local anesthesia achieved with 1% lidocaine and 1:100,000 epinephrine. A power output of 3 watts with a spot size of 2 mm and an exposure duration of 0.2 seconds was selected. Two passes were made over each lesion, with char removed by saline scrub between passes. Osseous inclusions, clearly visible after superficial tissue ablation, were then gently removed with a small curette (Figures 3 and 4). The patient tolerated the procedure well. Wound care included petrolatum application and polyurethane dressings bid. At 9 days postoperatively, there was slight crusting at a few of the treated sites, but she was otherwise healing well. A visit at 4 months showed resolution of bony papules at all treated sites, with minimal scarring, and faint hypopigmentation at some sites.

Six months after the initial treatment, the patient was again treated using a power output of 4 watts to some of her remaining lesions. Four months after the second session, she again had complete resolution of the treated papules, but with slightly more hypopigmentation. Fourteen months later, she underwent her third and final treatment to the few remaining lesions, using the original power of 3 watts. The lower power

LASER CO₂ + CURETTAGE

Osteoma Cutis < 1cm Microincision (ago)

CASE REPORT

Multiple cutaneous osteomas of the face associated with chronic inflammatory acne

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Keywords

acne, cutaneous ossification, osteoma cutis, surgery, treatment

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Received: 2 July 2004,
accepted: 8 October 2004

DOI: 10.1111/j.1468-3083.2006.01425.x

Abstract

Multiple miliary osteoma cutis of the face represents a rare and frequently unrecognized complication of chronic inflammatory acne. Their differentiation from microcomedones and macrocomedones may be challenging. The case of a 46-year-old Asian woman who suffered from chronic inflammatory acne is described. She had multiple papular lesions of the cheeks that did not respond to various topical and systemic therapies including oral isotretinoin. Light microscopy studies as well as ultrasound and computed tomography (CT) scan investigations demonstrated the presence of multiple osteoma cutis. Needle microincisions followed by mechanical extirpation of the bony formation resulted in a considerable cosmetic improvement of her skin disease. Knowledge of this rare complication of acne is mandatory, as its treatment is different from that of retentional and inflammatory acne and frequently relies on surgical modalities. Our novel technique consisting of needle microincisions with curettage of the lesions is simple and safe, leading to good cosmetic results.

Introduction

Acne is a common disease affecting a vast majority of adolescents.^{1,2} This condition frequently results in cosmetic concern with psychological distress and may be complicated by scarring.^{3,4} Although the introduction of oral isotretinoin has constituted a considerable advance in the management of acne, allowing to significantly reduce the risk of scarring, early institution of an appropriate treatment is mandatory to prevent this common problem as well as other, less frequent complications.⁵ For example, in the setting of severe and untreated disease, acne may be accompanied by solid facial oedema^{6,7} and by the occurrence of skeletal and joint manifestations, including the synovitis, acne, pustulosis, hyperostosis and osteitis (SAPHO) syndrome.⁸ Ossification of the dermis and the subcutaneous tissue may also occur.⁹ The latter complication may remain unrecognized and constitutes a therapeutic challenge.

We describe here the case of a middle-aged Asian woman who had inflammatory acne for almost three decades. She

developed widespread cutaneous osteomas thought to represent comedonal lesions, which did not respond to oral isotretinoin therapy. We review the clinical features and the various treatment modalities for this rare complication.

Case report

A 45-year-old Asian woman presented for evaluation of recalcitrant papular lesions located on both cheeks (fig. 1) that caused significant cosmetic discomfort. Her medical history was unremarkable except that she had been suffering from moderate acne since adolescence that was treated with various topical treatments. For the past four months, she was given small doses of oral isotretinoin, 10 mg daily, which resulted in clearing of all pustular lesions of the face, but had no effect on some non-inflammatory lesions. Furthermore, she was on a combined hormonal substitution consisting of 1 mg of 17- β -estradiol and 10 mg of dydrogesterone for the last three years (Femoston®, Solvay Pharmaceuticals, Bern, Switzerland).

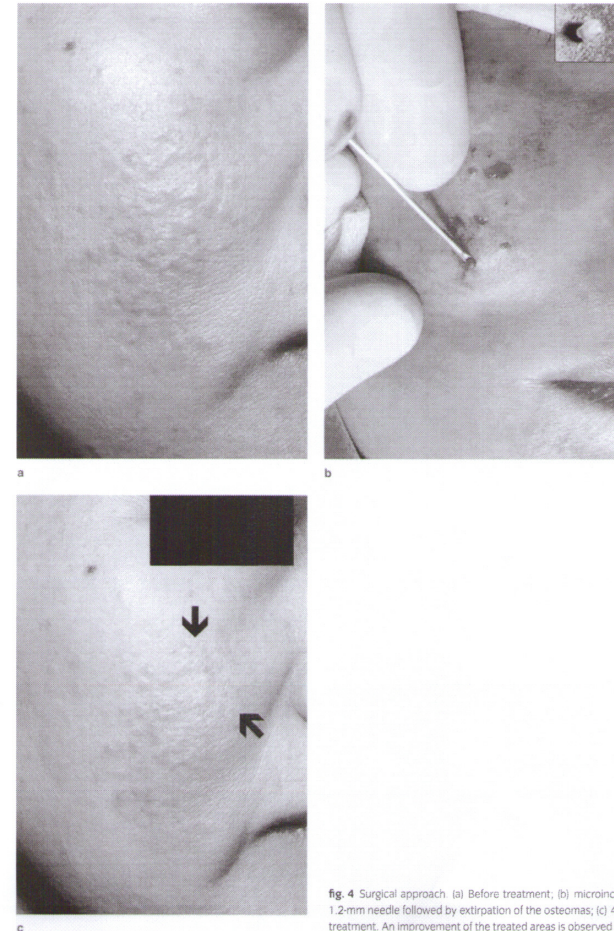
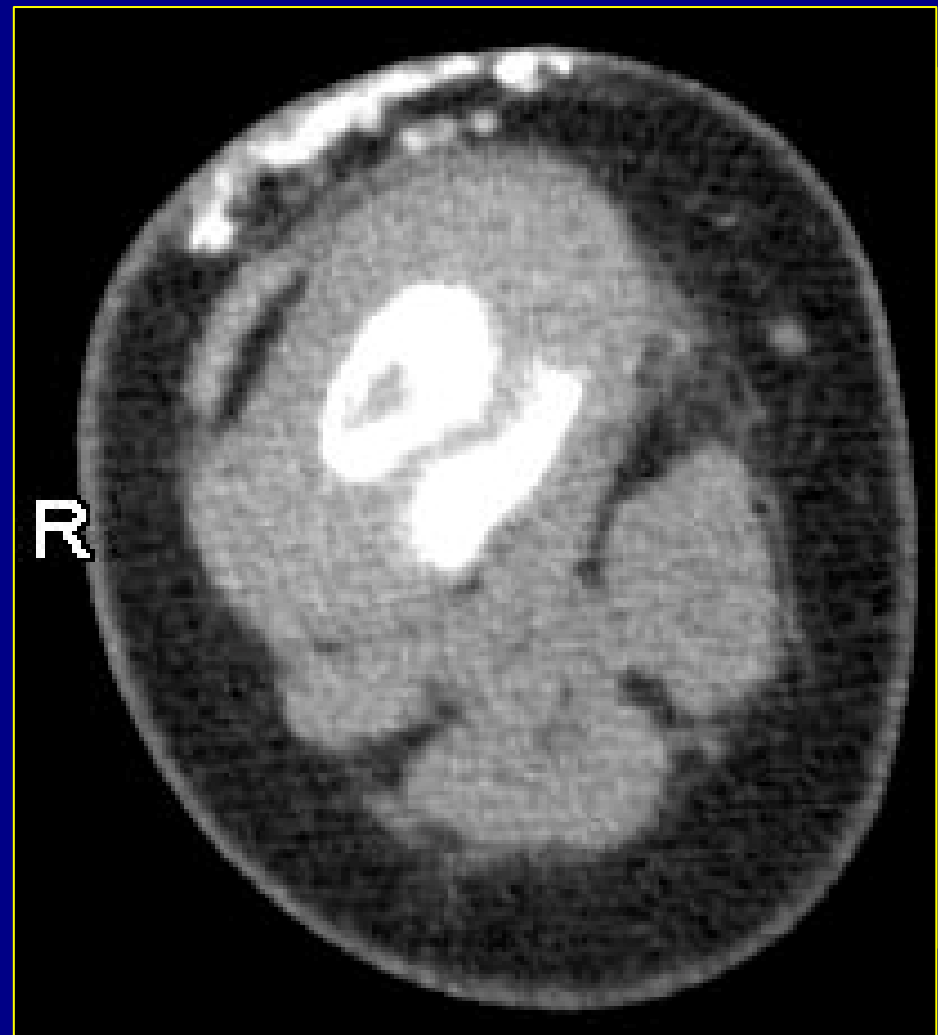
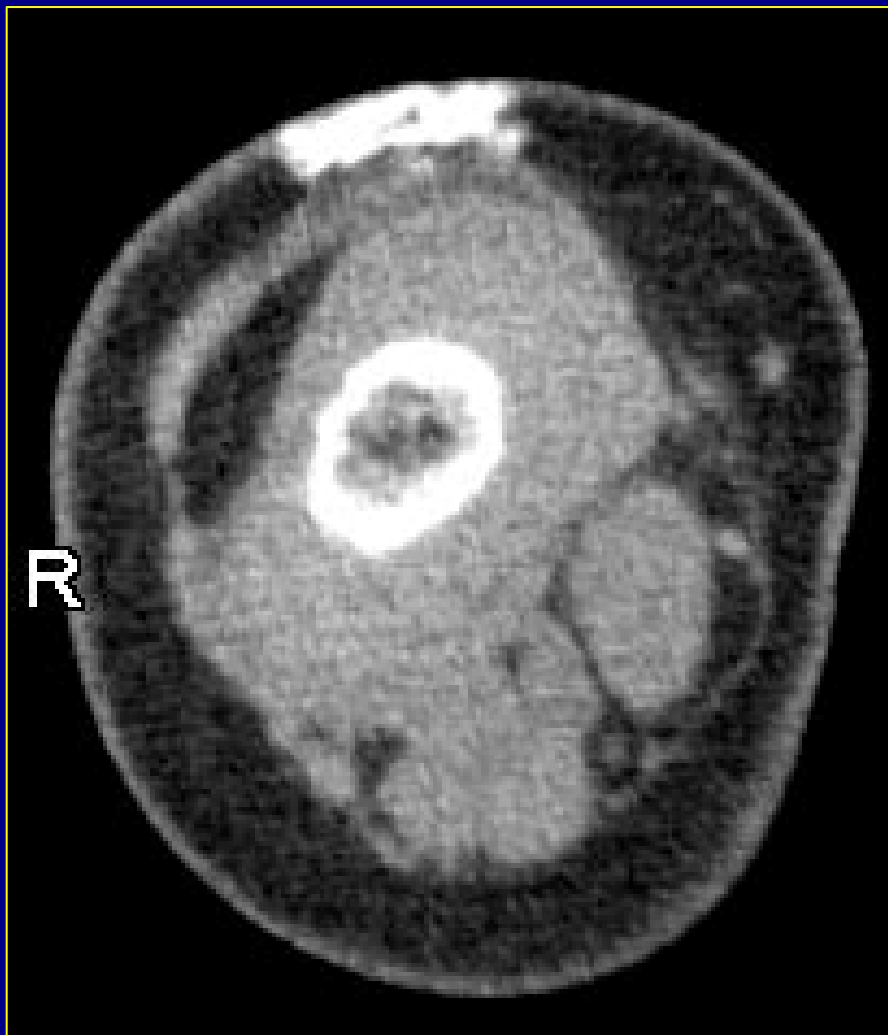


fig. 4 Surgical approach. (a) Before treatment; (b) microincisions using a 1.2-mm needle followed by extirpation of the osteomas; (c) 4 months after treatment. An improvement of the treated areas is observed (arrows).

Osteoma Cutis > 3cm

Escissione



Osteoma Cutis

CONCLUSIONI

Chirurgia rimane il trattamento di scelta

- **Osteoma Cutis < 1cm:** - punch excision
- curettage (microincision)
- **Osteoma Cutis > 1cm:** biopsia escissionale
- **Osteoma Cutis > 3cm:** agobiospia → escissione

