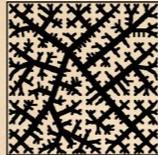
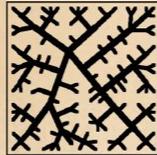
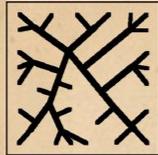
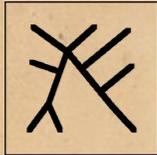


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### **Immunopathic Ulcers: Immunopathies, Chronic Wounds, and the Missed Diagnosis**

Original presentation February 19, 2002, Maui  
at the Boswick Burn and Wound Meeting

Most recent presentation, October 27, 2005, Phoenix  
at WOCN, Rocky Mountain Chapter, Annual Meeting

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# IMMUNOPATHIC ULCERS



Immunopathies,  
chronic wounds,  
and the  
missed diagnosis

Presented by

Marc E. Gottlieb, MD, FACS

Phoenix, AZ

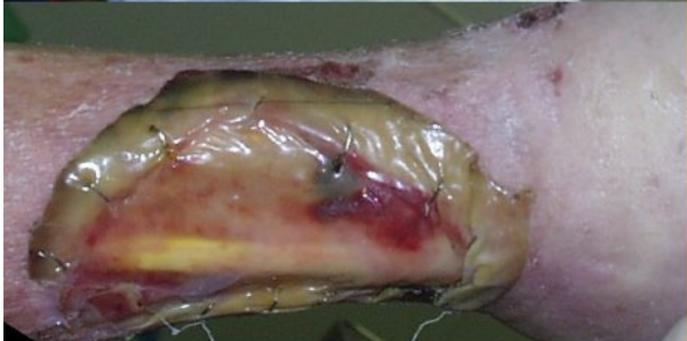
missed diagnoses



rheumatoid arthritis



sjögren's



sjögren's



rheumatoid arthritis



systemic  
lupus  
erythematosus



behçet's syndrome





rheumatoid



lupus



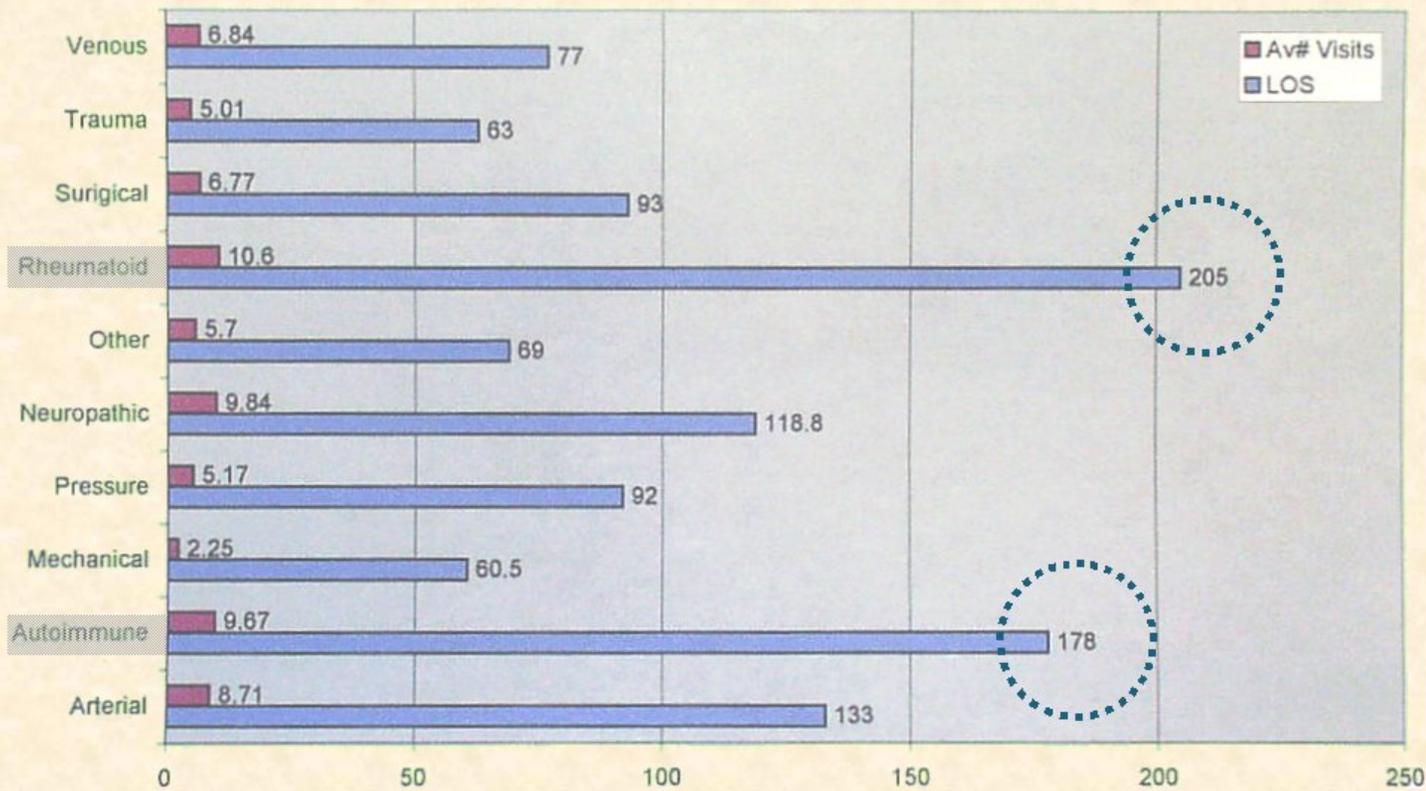
rheumatoid arthritis

difficult to treat



# Immunopathic ulcers

Healing Rates/ Wound Type



immunopathic ulcers are  
more common than many realize  
often overlooked or misdiagnosed  
difficult and frustrating to treat  
require coordinated rx of underlying disease



# Immunopathic disorders, an overview

## connective tissue disorders

rheumatoid  
lupus  
sjögren's  
scleroderma  
mctd (mixed)  
polymyositis  
ank. spondylitis  
behçet's  
wegener's  
sarcoidosis  
fam. med. fever

## vasculitides

polyarteritis nod.  
autoimmune  
giant cell  
hypersensitivity  
thromboangiitis

## fasciitis & panniculitis

weber-christian  
nodular fasciitis  
erythema nodosum

## inflammatory dermatoses

eczema  
atopic  
erythema  
nodosum  
pyoderma  
gangrenosum

## miscellaneous

crohn's  
ulcerative colitis  
others

general categories

# Immunopathies, an overview

<p>demographics</p> <p>any sex age race</p>	<p>standard dx criteria</p>	
<p>wound related dx criteria</p> <p>unappreciated by most doctors</p>	<p><b>rheumatoid arthritis</b> (4 of 7) morning stiffness 3 or more joint areas hand joints symmetric arthritis rheumatoid nodules serum rheumatoid factor radiographic changes</p>	<p><b>lupus (sle)</b> (4 of 11) malar rash discoid rash photosensitivity oral ulcers arthritis serositis renal disorder neurologic disorder hematologic disorder ant-DNA or LE prep ANA</p>
	<p>genital ulcers eye lesions skin lesions positive pathergy test</p>	<p><b>Behçet's syndrome</b></p>
<p>its <b>NOT</b> all in the textbooks</p> <p>dermatitis, fasciitis, panniculitis, and ulceration can be the first or only manifestation of active disease</p>		



# Immunopathies, features and findings

<p>general and common findings</p> <p>arthropathies rashes ulcers neurological abnormal serology</p>	<p>findings by system</p> <p>musculoskeletal renal &amp; pulmonary cardiac &amp; vascular blood &amp; immune cns</p>	<p>distinctive and unique findings</p> <p>crst sicca synovitis pathergy necrotizing vasculitis</p>
<p>findings by disease</p> <p>rheumatoid lupus scleroderma sjögren's polymyositis</p>	<p>other tip-offs</p> <p>multiple allergies drug hypersensitivity photosensitivity malar rash nasal perforation</p>	<p>disease associations</p> <p>hypercoagulability venous arterial disease neuro-psych many misdiagnoses</p>

all have altered immunity, inflammation, and autoimmunity as the cause of clinical illness



# Immunopathic soft tissues and wounds



Physical Findings

pre-ulcerative

vascular stasis  
congestion  
infarction

inflammation  
pyoderma

systemic sx  
pain

focal

multifocal



# Immunopathic soft tissues and wounds



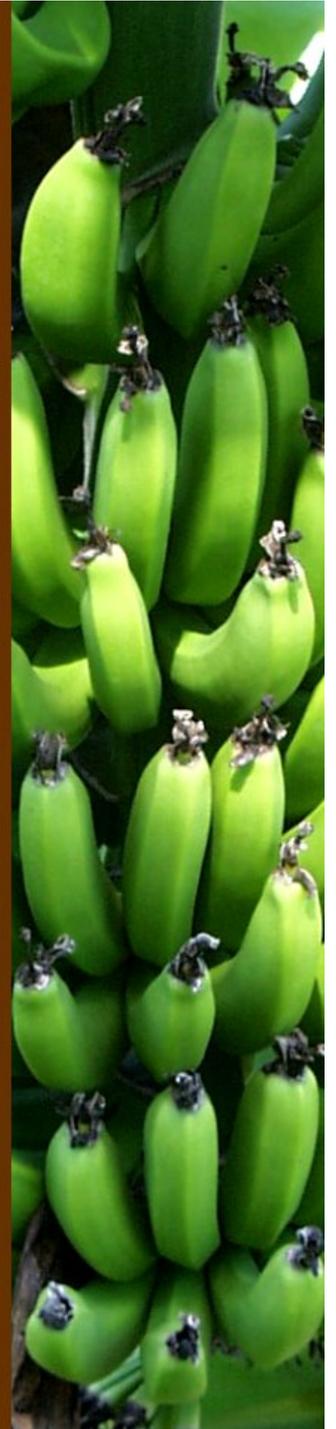
Physical Findings

pre-ulcerative or associated

dermatofasciitis

edema

dermatitis



# Immunopathic soft tissues and wounds



## Physical Findings

acute and early ulcers

vascular stasis  
infarction

inflammation  
pyoderma

systemic sx

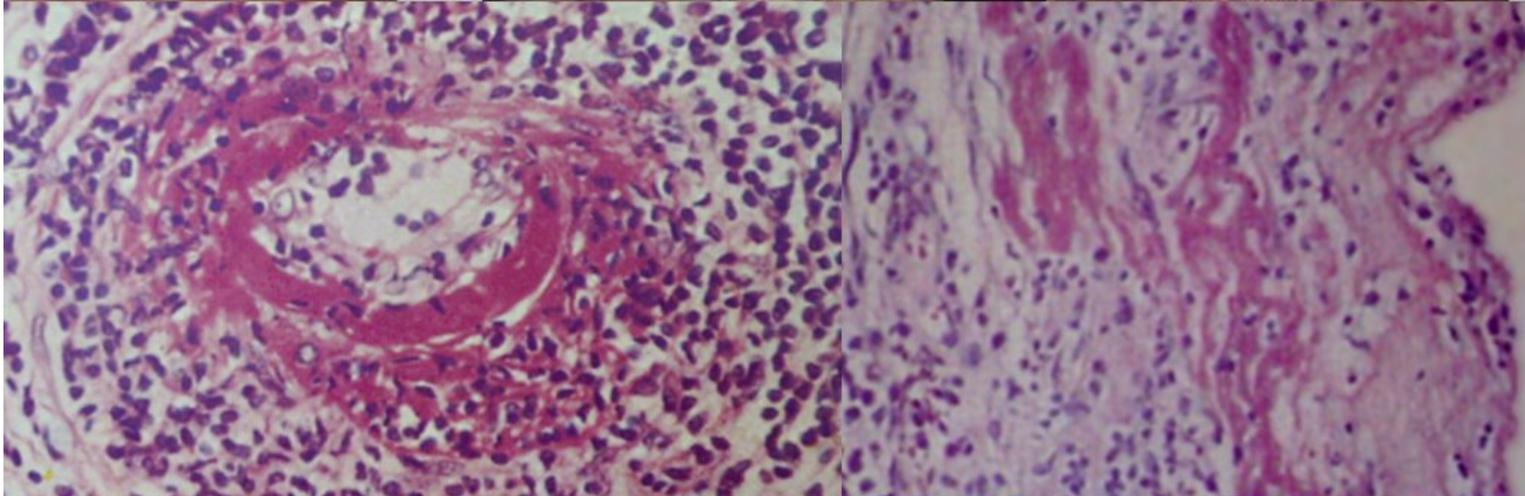
tissue lysis &  
ulceration  
(lysis vs necrosis)

focal

multifocal



# Immunopathic soft tissues and wounds



Physical Findings

acute and early ulcers

vascular stasis  
infarction

inflammation  
pyoderma

systemic sx

tissue lysis &  
ulceration  
(lysis vs necrosis)

focal  
multifocal

# Immunopathic soft tissues and wounds



Physical Findings

late and chronic ulcers

persistent inflammation

progressive ulceration

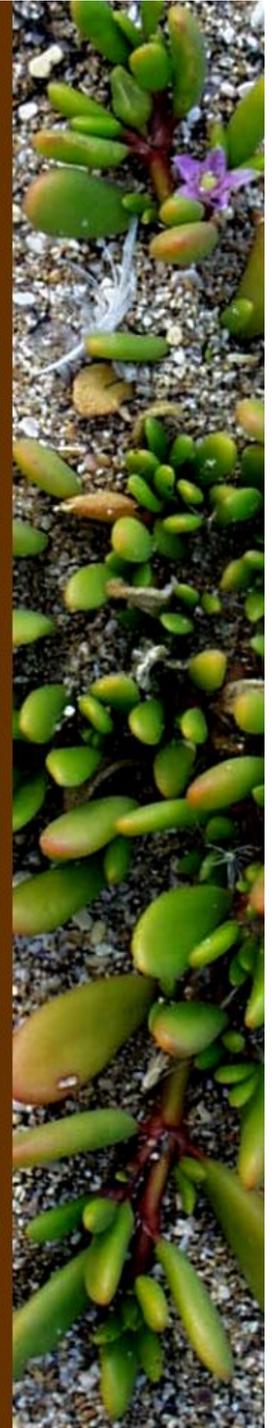
retarded wound module

chaotic behavior

pain and sx

focal

multifocal



# Immunopathic soft tissues and wounds



Physical Findings

late and chronic ulcers

persistent inflammation

progressive ulceration

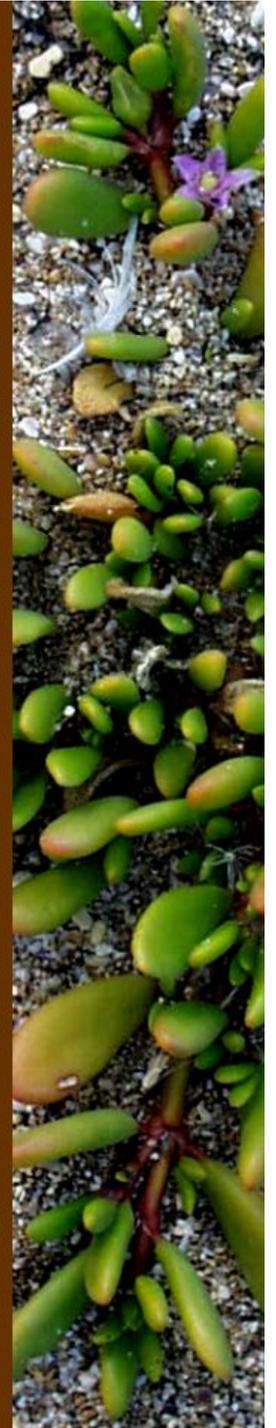
retarded wound module

chaotic behavior

pain and sx

focal

multifocal



# Immunopathic soft tissues and wounds



Physical Findings



other distinctive findings

ulceration along tendons

scar lysis & ulcer

not just gaiter  
not just leg

skin atrophy  
skin sclerosis  
(or not)  
atrophie blanche



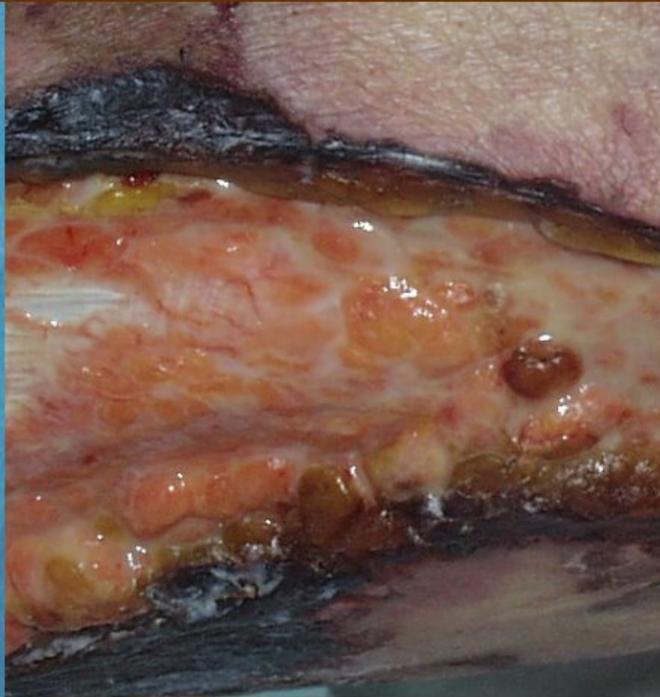
# Immunopathic soft tissues and wounds

Physical Findings

other distinctive findings  
each disease



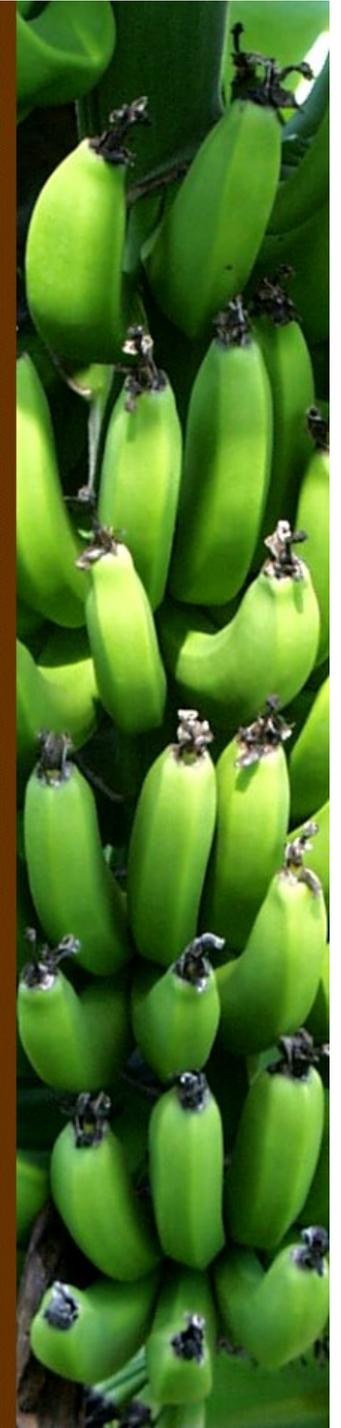
# Immunopathic soft tissues and wounds



Physical Findings

what is not there

no venous  
no arterial  
no eschar  
no wound module



# Immunopathic soft tissues and wounds



Physical Findings

general physical exam

common signs of common immunopathies

arthropathies

neurolepsy & neurological

malaise & systemic



# Immunopathic soft tissues and wounds

tip offs – how to suspect the diagnosis



Other  
Diagnostic

history

history of disease  
family hx  
rx for disease

complications of  
trauma or surgery

steroid doses  
lowered

disease associations  
vasculopathies  
hypercoagulable  
neurological  
renal  
pulmonary



# Immunopathic soft tissues and wounds



Other  
Diagnostic

response to  
intervention

failed rx  
multiple failed rx

pathergy

complications of  
wound closure  
or surgery

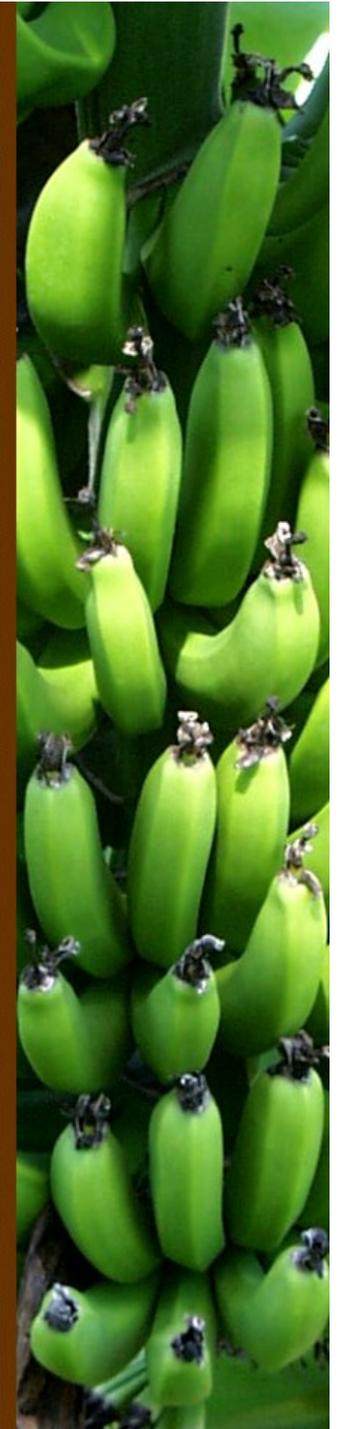
disease flare-up

steroid response

other rx:

no response or  
adverse response

contrary  
responses



# Immunopathic soft tissues and wounds

## Panel 1 Basic Rheumatoid

CBC  
ESR, CRP  
ANA, RF  
anti-DNA

## Panel 2 Full Rheumatoid

above, plus  
complement (C2, C4, etc)  
SPEP  
ImmuneEP  
ANCA's  
  
plus  
rheum alphabet soup

## Panel 3 Hypercoagulable

Panel 1, plus  
PT, PTT  
fibrinogen  
plasminogen  
lupus anticoagulant  
anticardiolipins  
prothrombin gene mut.  
factor V leiden  
anti-thrombin 3  
proteins C  
protein S  
homocysteine  
cryofibrinogen  
cryoglobulin

## Other Diagnostic

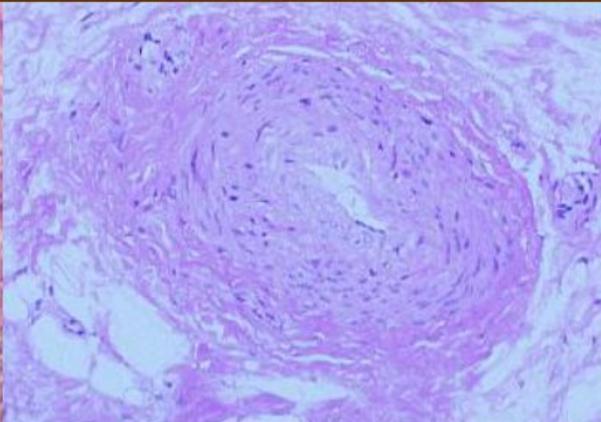
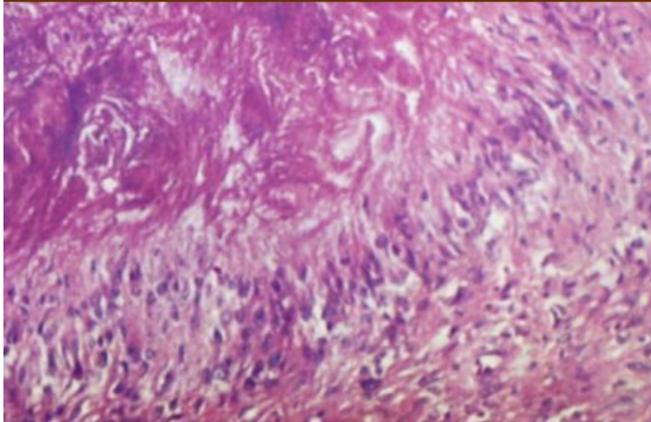
### clinical laboratory

basic  
rheum screen  
comprehensive  
rheum screen  
hypercoag screen  
special tests  
eg pathergy

rheumatology  
consultation



# Immunopathic soft tissues and wounds



Other  
Diagnostic

histology

- vasculitis
- collagen degeneration
- rheumatoid nodules
- peculiar inflammation
- visceral pathology

radiography

- bone & joint
- angiography
- visceral changes



# Immunopathic soft tissues and wounds



## Differential Diagnosis

other disorders which cause:

- multifocal -
- refractory -
- pathological -
- ulcers

pathergy complications

hypercoagulable disorders

other micro-occlusive

other ischemic

how to discriminate



# Immunopathic soft tissues and wounds



Composite  
Diagnosis

uncertainty

equivocal dx

mixed dx

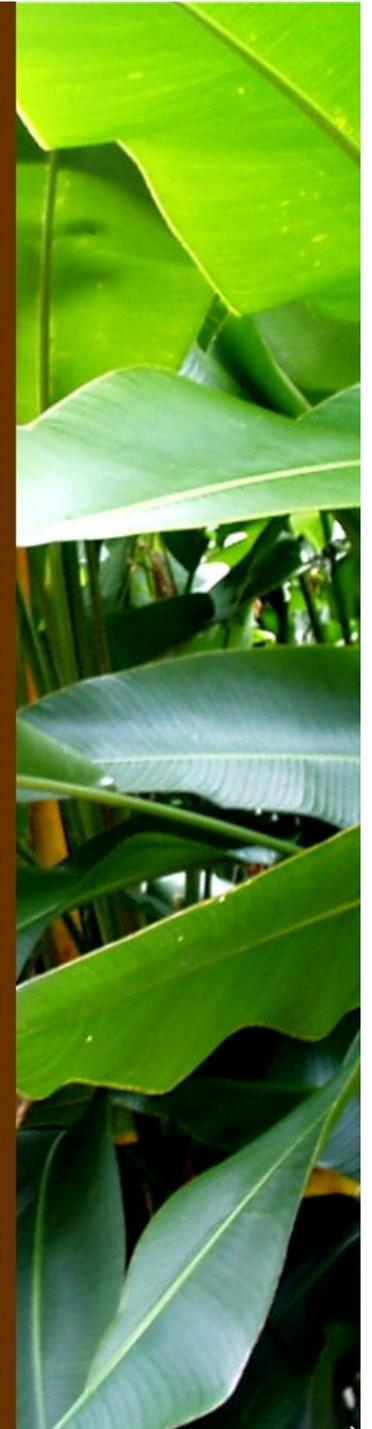
unknown dx

resolving the dx

state of the art

what we know

what we don't



# Treatment of immunopathic wounds

Treatment

—  
General  
Scheme

Immunopathic fasciitis and ulceration must be managed at multiple levels. Ulcers will not respond if underlying disease is not controlled.

**Acute rx:** General wound care. Make diagnosis. Consult and treat. If severe, if ulceration can be prevented, if life and limb are threatened, then high dose steroids; repeat steroids to treat flare-ups or increasing ulceration.

**Disease rx:** Transition to definitive therapy; steroids generally best for acute control, other drugs best for maintenance; predominant drugs are steroids, azothioprine, hydroxychloroquine, methotrexate; disease control with methotrexate is particularly beneficial to wound resolution.

**Wound rx:** Once disease is controlled, wounds may heal with basic care; refractory wounds can be treated by most options; for surgery, dermatofasciectomy and skin reconstruction.

**Maintenance rx:** Maintain disease control; edema control, skin care; topical steroids; re-ulceration preventable with prompt intervention of flare-ups.



# Treatment of immunopathic wounds

Wound and  
Soft Tissue  
Treatment

Acute

not urgent

basic wound care  
work-up & dx  
begin general care

urgent

basic wound care  
work-up & dx  
steroids  
topical  
intralesional  
systemic

initial  
flare-ups

prevent ulceration  
protect the patient



# Treatment of immunopathic wounds

Wound and  
Soft Tissue  
Treatment

Definitive 1

wound care  
modalities

basic  
wound care

non-specific  
topicals

active  
therapies

treat related  
disease

these are pathological wounds - no easy fix



# Treatment of immunopathic wounds

Wound and  
Soft Tissue  
Treatment  
—  
Definitive 2

repair &  
reconstruct

skin grafts

flaps

integra

maintenance  
therapy

these are pathological wounds - no easy fix



# Treatment of immunopathic wounds

Wound and  
Soft Tissue  
Treatment

Chronic  
and  
Maintenance

wound care  
modalities

basic wound care  
skin care  
edema control  
topical steroids

general care

regular rheum  
follow-up  
keep disease  
controlled



intervene  
promptly  
for  
flare-ups

# Treatment of immunopathic wounds



## steroids

high - low dose  
acute - chronic  
systemic  
topical  
intralesional

## main control

steroids  
nsaids  
methotrexate  
azothioprine  
plaquenil



Treatment  
—  
the Drugs

## standbys

gold  
penicillamine  
azulfidine  
mesilamine  
cyclosporine  
cytoxan

## new drugs

leflunomide  
arava  
etanercept  
enbrel  
infliximab  
remicade

## steroids

caveats

# Treatment of immunopathic wounds

Miscellany

practical  
management

rheumatologists

what to do  
when the  
rheumatologist  
isn't there

steroids

other drugs

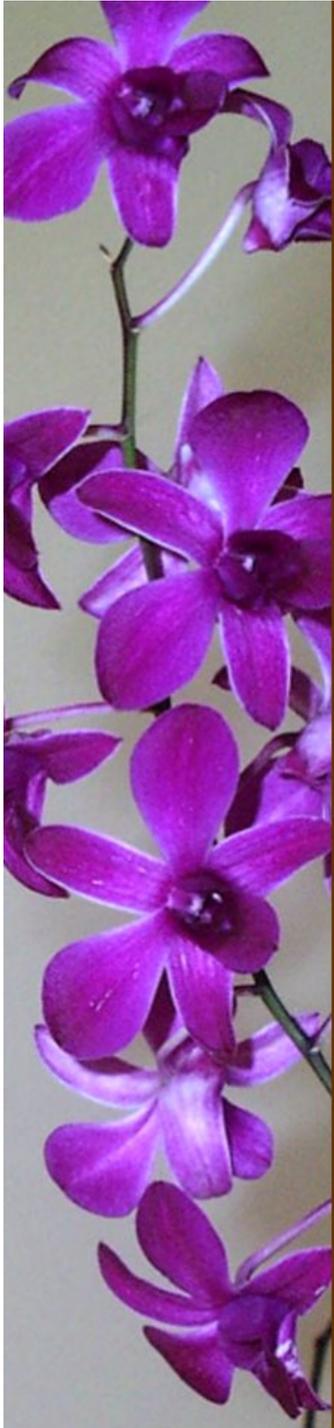
urgent  
flare-ups

steroids

topical

intralesional

systemic



# Exercises



Note  
rheumatoid ankle  
tendon sheath  
multifocal  
lysis, not eschar





## Immunopathic ulcers, summary

soft tissue pathology with inflammation, necrosis, and ulceration can be the only active manifestation of immunopathic disease

textbooks do not recognize this

be alert to the diagnosis of immunopathies, because most everyone else will miss them



# Immunopathic ulcers, summary

be familiar with the spectrum of these diseases and their behavior

be alert to their diagnosis

know how to treat the wounds

read a medicine textbook

take a rheumatologist to lunch



## Immunopathic ulcers, summary

be prepared to treat the patients  
and diseases sufficiently to:

stabilize the acute pathology

protect the patient's health

initiate work-up

consult the rheumatologist

manage flare-ups

make the wounds heal



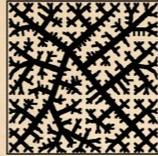
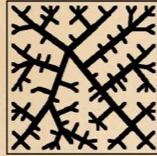
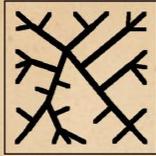
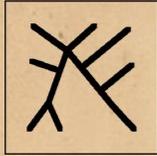
# IMMUNOPATHIC ULCERS

- the missed diagnoses -

don't miss them

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