



A Clinical Study of Panniculitides in a Tertiary Care Centre

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Abstract

Background: *The panniculitides comprise a heterogeneous group of inflammatory diseases involving the subcutaneous fat. Panniculitis are classified based on histopathological parameters and according to the location. They are further divided based on the presence or absence of vasculitis*

Methodology: *This is the prospective study conducted from april 2015 to oct 2016 in the Dept of dermatology, Coimbatore medical college hospital. Fifty three patients with clinical features of panniculitides were included in our study. of these, 17 cases were excluded from the study. Routine investigations and wherever needed special investigations were done.*

Results: *Out of 36 patients the commonest types were Erythema nodosum (12) and Erythema nodosum leprosum (6). Male to female ratio was 1.4:1. Most patients belonged to age group 21-50 yrs .our study showed septal panniculitis (33%) lobular(14%) mixed(28%) and panniculitis with vasculitis (25%)*

Conclusion: *Clinicopathological correlation is necessary for diagnosis and classification of panniculitis.*

Introduction

Panniculitides, the inflammatory disease of subcutaneous fat has been traditionally divided into septal panniculitis, lobular panniculitis, mixed panniculitis and panniculitis with vasculitis. From a clinical standpoint, many forms of panniculitis of diverse etiology closely resemble one another, presenting as tender erythematous subcutaneous nodules. Some panniculitides can be a manifestation of different disease processes, Histopathologically there may be overlap between the various forms of panniculitis. Most

panniculitis are persistent, lasting for weeks or months.

Working classification^{1,2,3} of the Panniculitides

Mostly septal panniculitides

With vasculitis

Veins : Superficial thrombophlebitis

Arteries: Cutaneous polyarteritis nodosa

Without vasculitis

Lymphocytes and plasma cells mostly

- With granulomatous infiltrate in septa:
Necrobiosis lipoidica

- No granulomatous infiltrate in septa: Deep morphoea

Histiocytes mostly: Granulomatous Infiltrate

- With mucin in center of palisaded granulomas: Subcutaneous granuloma annulare
- With fibrin in center of palisaded granulomas: Rheumatoid nodule
- With large areas of degenerated collagen, foamy histiocytes, and cholesterol clefts: Necrobiotic xanthogranuloma
- Without mucin, fibrin, or degeneration of collagen, but with radial granulomas in septa: Erythema nodosum

Mostly lobular panniculitides With vasculitis

Small vessels

Venules: Erythema nodosum leprosum, Lucio phenomenon

Large vessels

Arteries and veins: Erythema induratum of Bazin

Without vasculitis

Few or no inflammatory cells

- Necrosis at the center of the lobule: Sclerosing panniculitis.
- With vascular calcification : Calciphylaxis
- With needle-shaped crystals in adipocytes: Sclerema neonatorum Lymphocytes predominant:
- With superficial and deep perivascular dermal infiltrate: Cold panniculitis
- With lymphoid follicles, plasma cells, and nuclear dust of lymphocytes: Lupus panniculitis.

Neutrophils predominant

- Extensive fat necrosis with saponification of adipocytes: Pancreatic panniculitis.
- With neutrophils between collagen bundles of deep reticular dermis: Alpha₁ – antitrypsin deficiency panniculitis
- With bacteria, fungi, or protozoa: Infective panniculitis
- With foreign bodies: Factitial panniculitis

Histiocytes predominant (granulomatous)

- No crystals in adipocytes

Subcutaneous sarcoidosis

Traumatic panniculitis

Lipomembranous fat necrosis

Lipodystrophy and lipoatrophy

- With crystals in histiocytes or adipocytes Subcutaneous fat necrosis of the newborn Poststeroid panniculitis
- With cytophagic histiocytes: cytophagic histiocytic panniculitis Panniculitis-like subcutaneous lymphomas
- With sclerosis of the septa: Sclerosing postirradiation panniculitis

Objectives

To study the clinical and histopathological features of various types of panniculitis and to find out the common types .

Materials and Methods

All patients with clinical features suggestive of panniculitis i.e erythematous subcutaneous nodules or plaques with or without ulceration which was subsequently confirmed by histopathological examination were included. A detailed history was taken which includes, duration and recurrence of skin lesion, presence or absence of pain, ulceration and systemic symptoms. History of sore throat, tuberculosis, drug intake, malignancy, collagen vascular disorders were elicited. Detailed general, systemic and skin examinations were done

Analysis: A descriptive analysis of the clinical characteristics, laboratory parameters and histopathological features were done. The data was analyzed and compared with published literature.

The clinical spectrum of panniculitis

Disease	No. of Patients	Percentage	SEX DISTRIBUTION			
			MALE		FEMALE	
			No.	%	No.	%
Erythema Nodosum	12	33	5	42	7	58
Erythema nodosum leprosum	6	17	3	50	3	50
Erythema induratum	3	8	1	33	2	67
Lipodermatosclerosis	2	6	2	100	0	0
Others	13	36	10	77	3	23
TOTAL			21	58	15	42

Distribution of Cases

Septal panniculitis	No. of cases	Percentage
Erythema Nodosum	9	75
Eosinophilic fasciitis	1	8.3
Subcutaneous nodules of still's disease	1	8.3
Subcutaneous morphoea	1	8.3
Lobular panniculitis	No.of cases	Percentage
Pancreatic panniculitis	1	20
Idiopathic	4	80
Mixed panniculitis	No. of cases	Percentage
Lipodermatosclerosis	2	20
Subcutaneous zygomycosis	2	20
Panniculitis of arthropod bite	2	20
Lupus Panniculitis	1	10
Erythema nodosum	3	30
Panniculitis with Vasculitis	No. of cases	Percentage
Erythema nodosum leprosum	6	66.66
Erythema induratum	3	33.33

Results

Thirty six patients with clinical and histopathological features of panniculitis were included in the study. The average age at presentation was 35.5 years. The male, female ratio was 1.4:1. The commonest type of panniculitis were Erythema nodosum (12) fig 1 and Erythema nodosum leprosum (6) fig 2. The other types being panniculitis associated with connective tissue diseases(4), Erythema induratum(3)fig 3 lipodermatosclerosis (2), panniculitis of arthropod bite (2), subcutaneous zygomycosis(2) and pancreatic panniculitis(1)fig 4. Clinically most of the patients with suspected panniculitis were presented with non specific features of erythematous tender subcutaneous nodules, usually located in the lower limbs. Septal panniculitis without vasculitis was the most common histopathological pattern observed. The clinical and histopathological profile of erythema nodosum was similar to other studies. Most patients of erythema nodosum had evidence of infection in our study. In contrast to other studies all cases of lipodermatosclerosis occurred in men in our study .We found a significant proportion of patients with erythema nodosum leprosum presenting as panniculitis in our study.

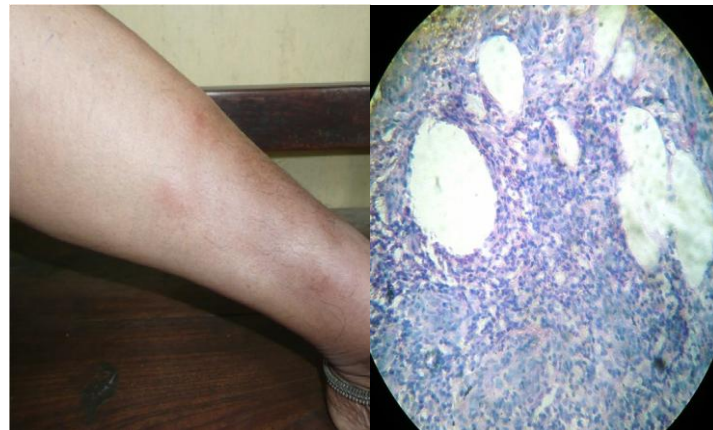


Fig 1 Erythema nodosum showing septal panniculitis with septal widening, predominant lymphohistiocytic infiltrates and granulomas within the septa



Fig 2 Erythema nodosum leprosum showing lobular Panniculitis with vasculitis

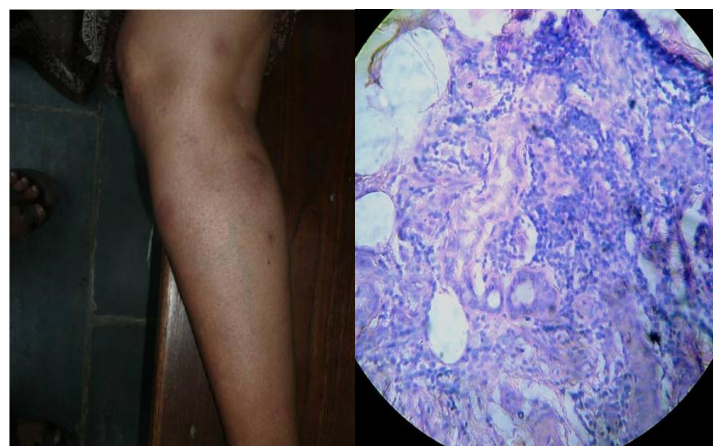


Fig 3 Erythema induratum showing lobular panniculitis with vasculitis, lymphocytic and neutrophilic infiltration and Small epitheloid histiocytes

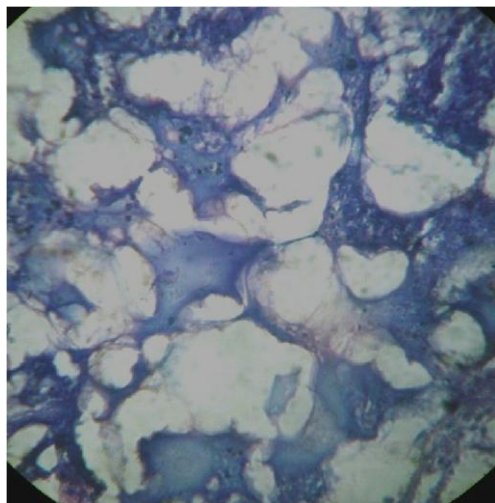


Fig 4 Pancreatic panniculitis showing lobular panniculitis with homogenous basophilic material within the fat lobules

Discussion

The panniculitides are a diverse group of cutaneous disorders that are characterized by an inflammatory process that predominantly affects the subcutaneous fat. Clinically most of the patients with suspected panniculitis were presented with nonspecific features of erythematous, tender, subcutaneous nodules usually located in the lower limbs. Histopathologically there may be overlap between the various forms of panniculitides. Handa et al⁴ study indicated that the mean age of presentation of patients with panniculitis was 33.5 years which is comparable with our study (35.5). Septal panniculitis without vasculitis was the most common histopathologic pattern observed which is similar to other studies⁴. Other types of panniculitides that we encountered were erythema nodosum leprosum, lipodermatosclerosis and erythema induratum of Bazin. The rare types of panniculitides in our study were pancreatic panniculitis, subcutaneous zygomycosis eosinophilic fasciitis and panniculitis of arthropod bite.

Conclusion

Clinicopathological correlation is necessary for the diagnosis and classification of panniculitides. The unusual variants of panniculitis like panniculitis of arthropod bite, subcutaneous

zygomycosis and pancreatic panniculitis were seen in our study.

References

1. Luis Requena, Bruce H, Thiers , Panniculitis, Dermatologic clinics. Oct2008;vol 26:Number 4.
2. Requena L Sanchez Yus E. Panniculitis II .Mostly lobular panniculitis. J AmAcad Dermatol 2001 ; 45 : 325-61.
3. Requena L Sanchez Yus E. Panniculitis I. Mostly septal panniculitis I. J AmAcad Dermatol 2001 ; 45 : 163-83.
4. Handa R. Ramam M, Verma KK, Singh MK, kumar U, Aggarwal P,Wali JP.panniculitides –A Clinicopathological study .J Assoc Physicians India Aug 2002; 50 :1008-1012.