

## SPONGIOTIC DERMATITIS – A CASE REPORT

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### ABSTRACT

Clinicians often receive pathology reports proclaiming a spongiotic dermatitis with little in the form of a cogent differential diagnosis. In some cases, this is a natural consequence of the nonspecific nature of the reaction pattern due to matters of sampling error and/or lesional evolution. Further, some conditions are so synonymous in their histologic presentation that to choose one without mention of the other, purely on a histologic basis, may serve to inadvertently mislead the clinician. Despite the often significant histologic overlap amongst the varying spongiotic dermatitides, there are many subtle, yet detectable, features that may serve as clues to the pathogenetic process.

**KEYWORDS:** Spongiosis, Spongiotic dermatitis, Eczema, Atopic dermatitis, Contact dermatitis, Nummular dermatitis, Dyshidrotic eczema, Drug eruption, Mycosis fungoides, Pityriasis rosea, Stasis dermatitis, Psoriasiform dermatitis.

### INTRODUCTION

Spongiotic dermatitis (SD) is a fairly ubiquitous staple in routine dermatopathology practice. Spongiosis is a term used to describe the appearance of the epidermis imparted by intercellular edema with resultant spaces between keratinocytes, often progressing to intraepidermal vesiculation. The pathophysiologic mechanism of spongiosis remains unknown. It has been proposed that keratinocyte apoptosis induced by T-cells affects transmembrane proteins involved in cell to cell adhesion (cadherins) and that this may be responsible for the development of spongiosis.

An increase in hydrostatic pressure is also believed to represent a contributory factor. Additional features of a spongiotic dermatitis include serum crust, lymphocytic exocytosis, and collections of Langerhans cell microvesicles within the epidermis.

### CASE REPORT

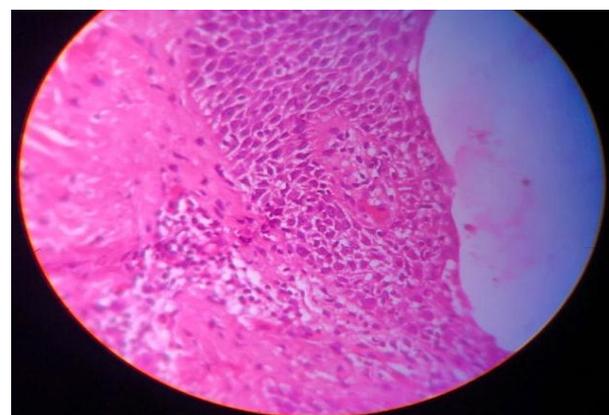
- 8 Yrs male with C/O fluid filled lesions over hands and feet on and off since 3 years, H/O atopy present.
- O/E: Vesicles and bullae present over hands and feet, dorsa and palmar/plantar aspect of different sizes, crusted erosions, old healed lesions present.
- Fluid Cytology Report (of the bullous lesions):- No evidence of viral inclusions.
- Specimen:- 4mm biopsy specimen taken from vesicle over right toe.

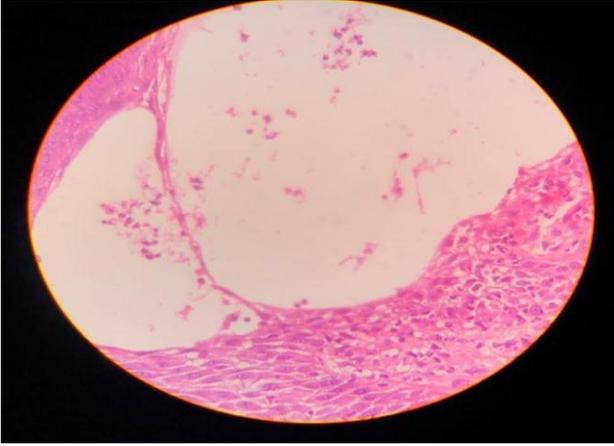
### Pathology

**Gross Description:** Received skin covered soft tissue bits measuring 0.4 cc in aggregate; AE.

### Microscopy

- Sections show hyperkeratotic and focally parakeratotic epidermis with intraepidermal bullous lesion enclosing scattered polymorphs and lymphocytes.
- Papillary dermis and superficial dermis shows capillaries surrounded by lymphocytes and polymorphs.
- Focal spongiosis and keratinocyte separation are seen.
- No evidence of dermoepidermal lymphocytic/eosinophilic infiltration.





## DISCUSSION

Spongiosis refers to accumulation of edema fluid between keratinocytes, in some cases it progresses to vesicle or bullae formation.

### Types

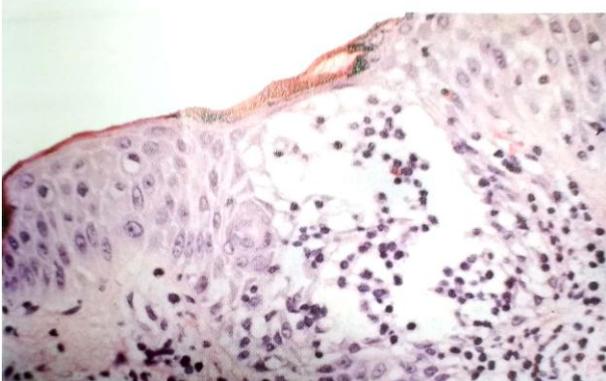
1. Acute
2. Subacute
3. Chronic

The spongiotic reaction pattern is characterized by epidermal changes related to the accumulation of intraepidermal edema. The resulting hydrostatic forces cause separation of the keratinocytes revealing the intercellular desmosomal attachments. This appearance has been likened to the cut surface of a sponge, hence the term spongiotic.

### Special Types

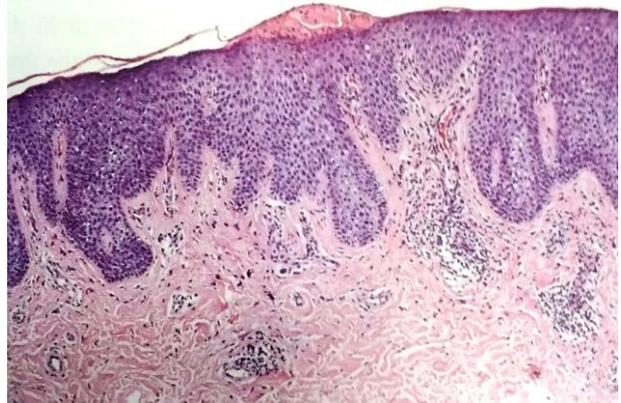
- Allergic contact dermatitis
- Irritant contact dermatitis.
- Dyshidrotic dermatitis.
- Autoeczematization or id reaction
- Photoallergic dermatitis
- Nummular dermatitis
- Atopic dermatitis
- Seborrheic dermatitis
- Stasis dermatitis.

### Allergic Contact Dermatitis



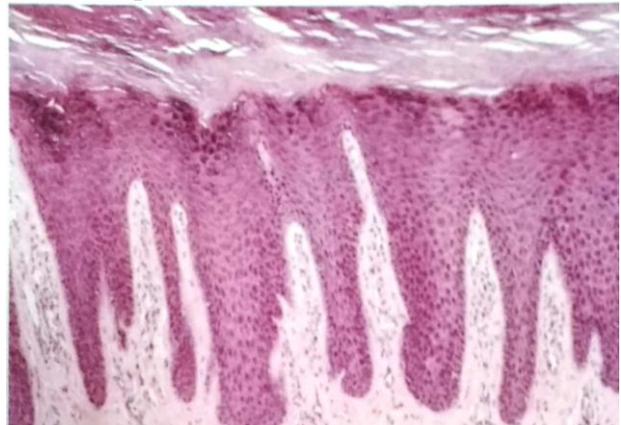
Superficial dermal infiltrate of lymphocytes, macrophages and Langerhans cells with accentuation around the small blood vessels can be seen.

### Nummular dermatitis



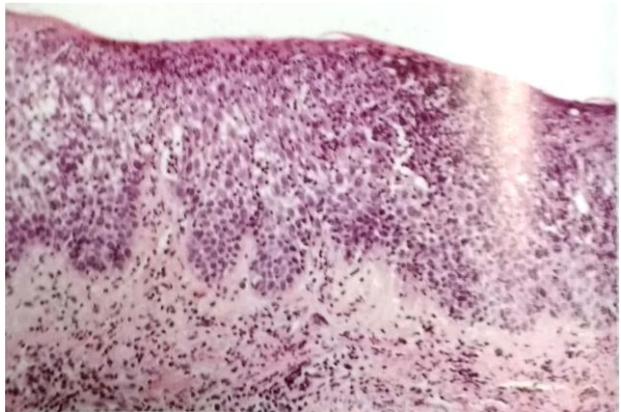
Irregular acanthosis, spongiosis and superficial perivascular inflammatory infiltrate. Parakeratosis containing plasma is also present.

### Lichen Simplex Chronicus



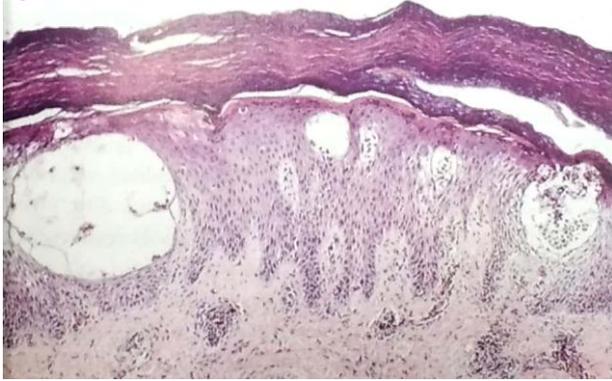
Hyperkeratosis, hypergranulosis and irregular psoriasiform acanthosis with minimal spongiosis. Vertically oriented collagen in the papillary dermis is characteristic.

### Irritant dermatitis



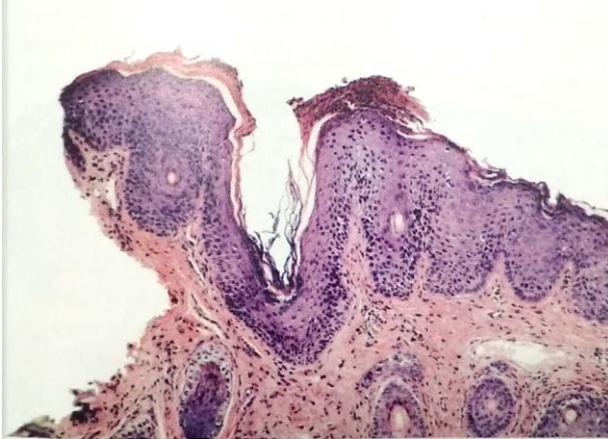
Superficial epidermal necrosis together with spongiosis and infiltrate of neutrophils.

#### Dyshidrotic Dermatitis



Intra epidermal vesicles are held intact with stratum corneum.

#### Seborrheic dermatitis



Neutrophilic parakeratosis on the follicular ostial shoulder. Epidermis is hyperplastic.

#### Differential diagnosis

##### Differential diagnosis of acute spongiotic dermatitis

Ptyriasis rosea, guttate parapsoriasis, spongiotic drug eruptions, arthropod bite reactions and dermatophytic infections.

##### Differential diagnosis of subacute spongiotic dermatitis

Ptyriasis lichenoids, dermatophyte infections, spongiotic drug eruptions or an arthropod bite reactions.

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