Dowling-Degos with Acantholysis: A Rare Case of Galli-Galli Disease

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History of Presentation

- 75 year old previously healthy Caucasian female
- 35 year h/o of widespread hyperpigmented macules
  - first appeared on thighs
  - progressed to involve back, neck, and arms
- 2-3 year h/o pruritic, hyperkeratotic, tan-colored papules on the extensor and flexural surfaces of extremities, neck, trunk

History of Present Illness

- A previous biopsy done in 2008 had shown focal acantholytic dyskeratosis, and she had been given a diagnosis of Grover's disease

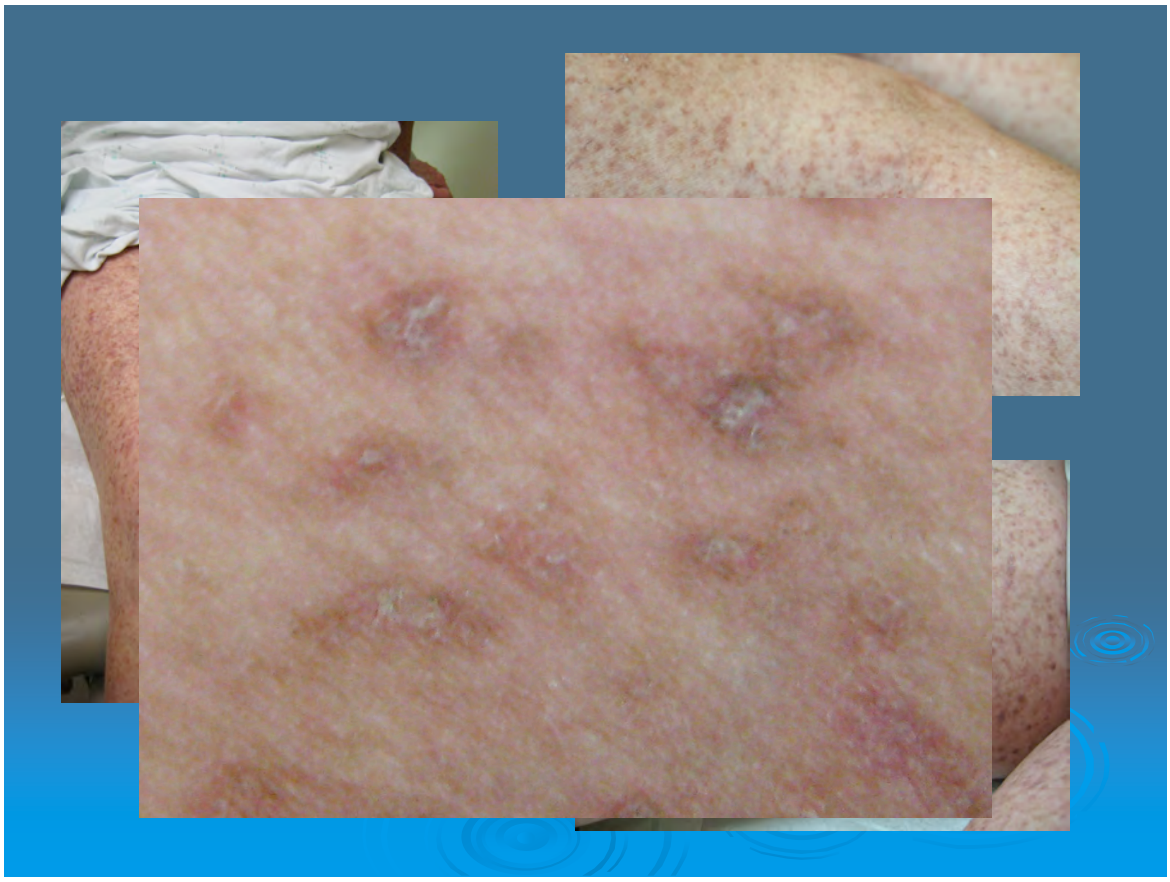
- Previous treatments included:
  -Triamcinolone 0.1% cream (transient improvement)
  -A several month course of tetracycline (no help)

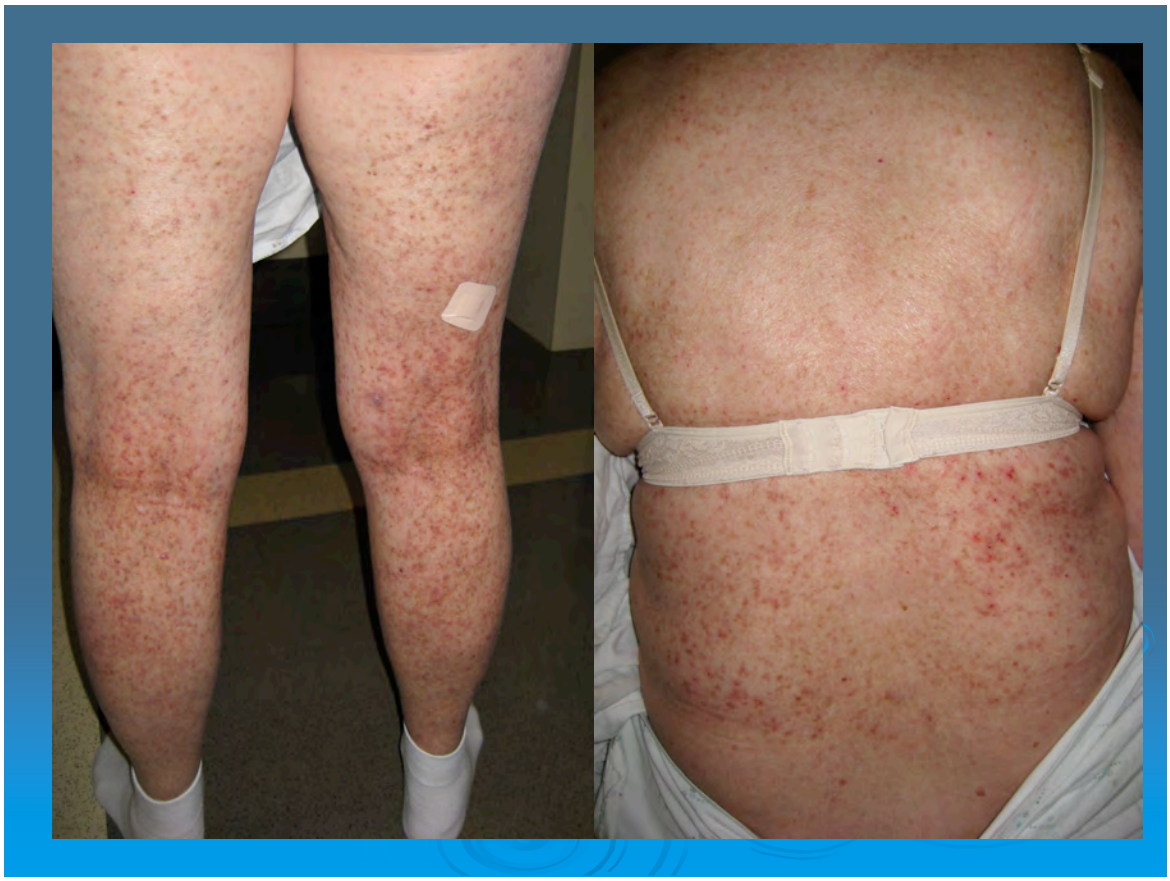
- Family History: Brother with similar papules limited to the lower extremities which appeared in middle age.

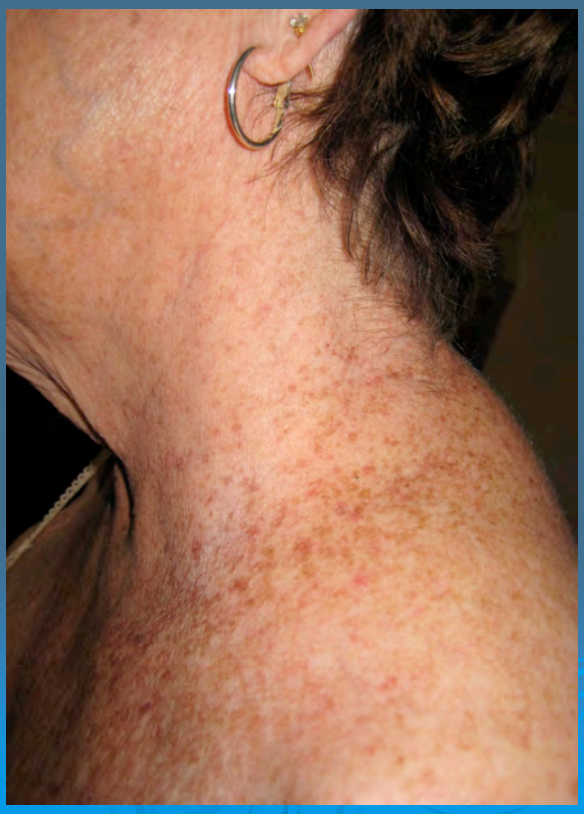
- Past Medical History:
  - Actinic keratoses
  - Osteoarthritis
  - HTN, hyperlipidemia
  - Glaucoma
  - Depression
  - GERD

- Medications:
  - HCTZ
  - Paroxetine
  - Atorvastatin
  - Esomeprazole
  - Bimatoprost

- Physical Exam: BP 154/94 HR 88 RR 14

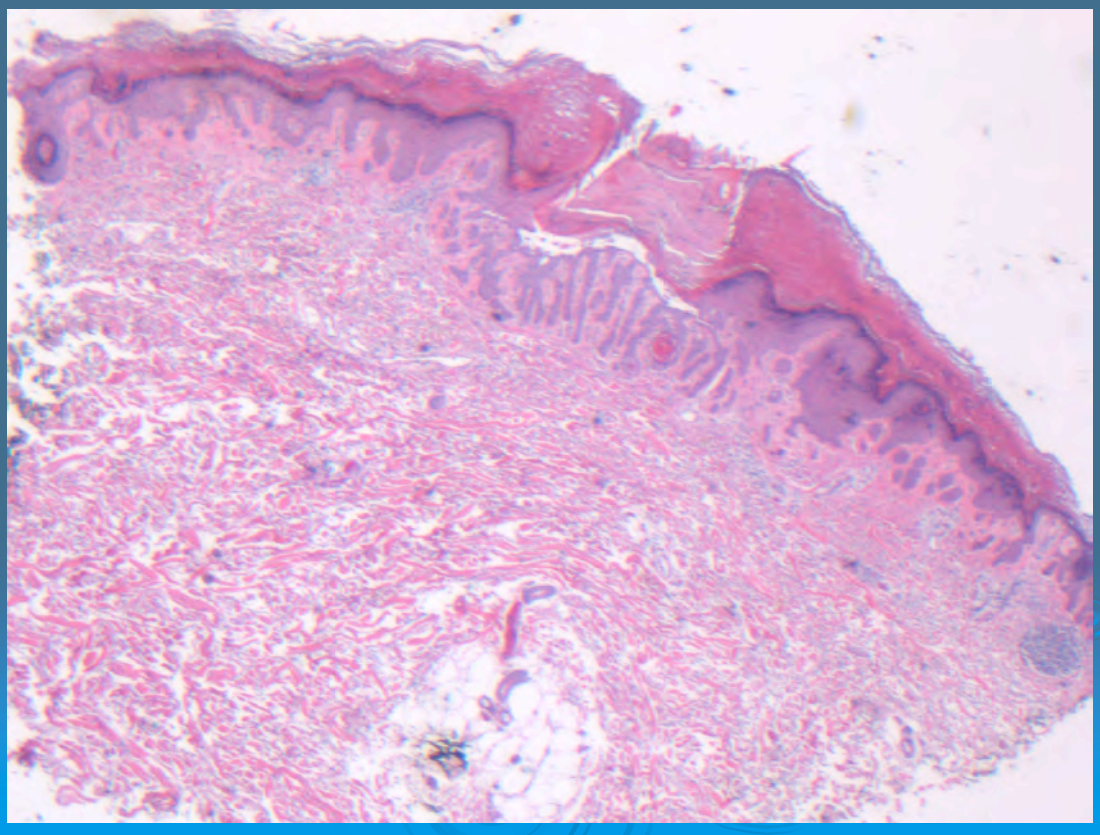


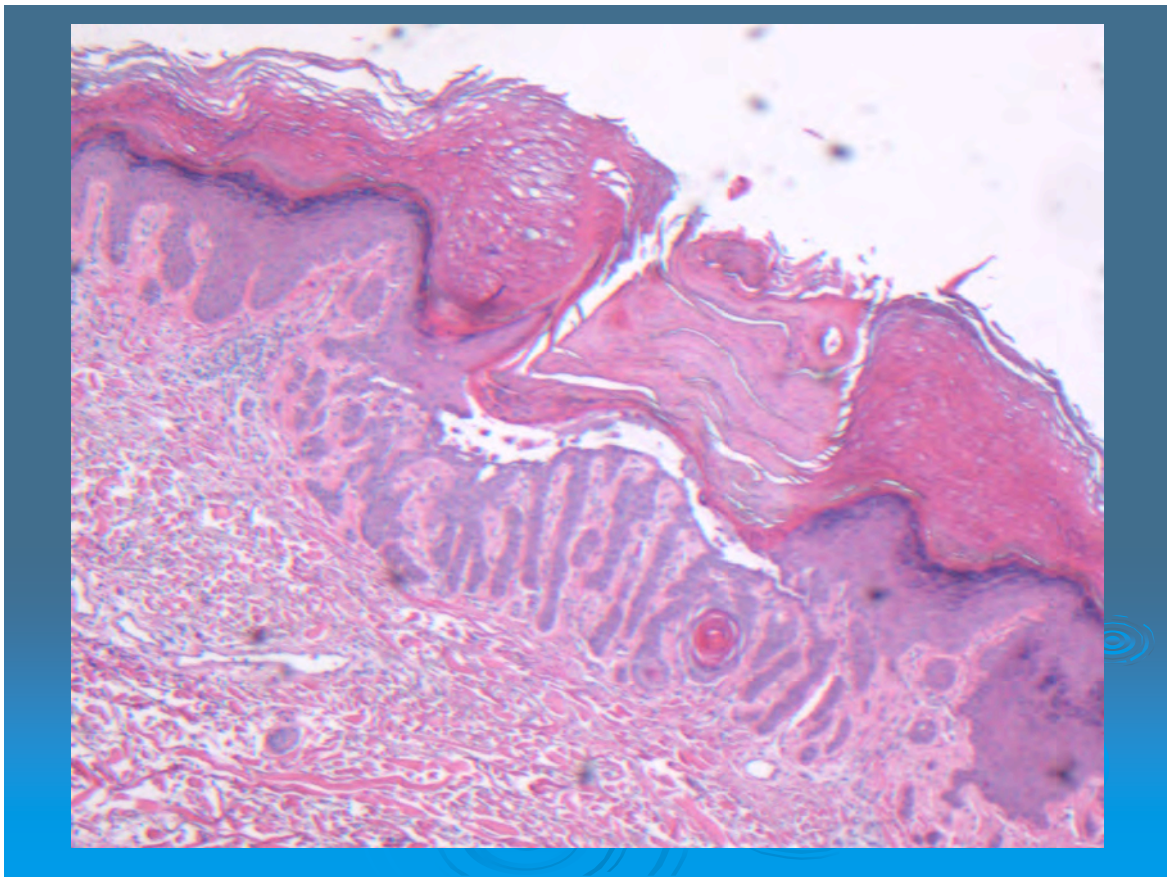


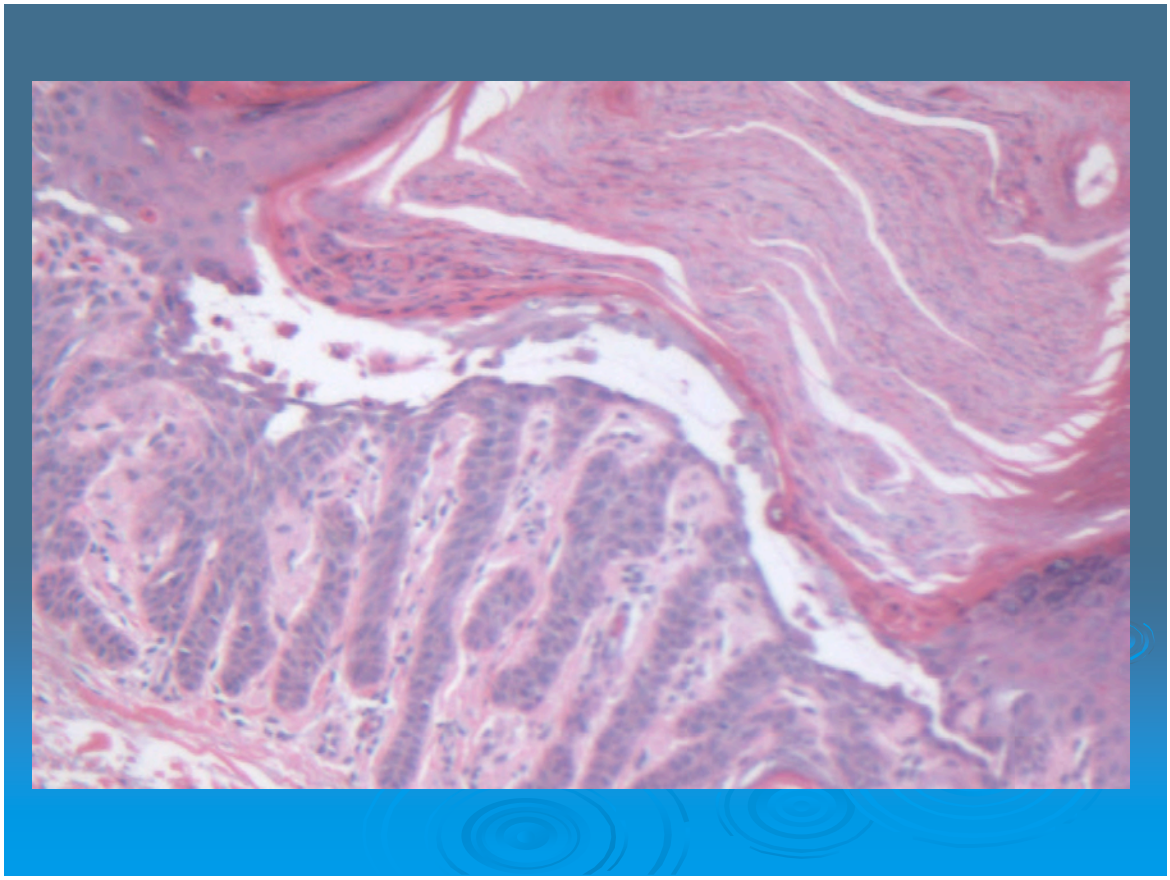


Differential Diagnosis

- Darier's disease
- Dowling-Degos disease
- EB Simplex with Mottled Pigmentation
- Disseminated superficial actinic porokeratosis
- Atypical Grover's disease







Diagnosis: Galli-Galli Disease

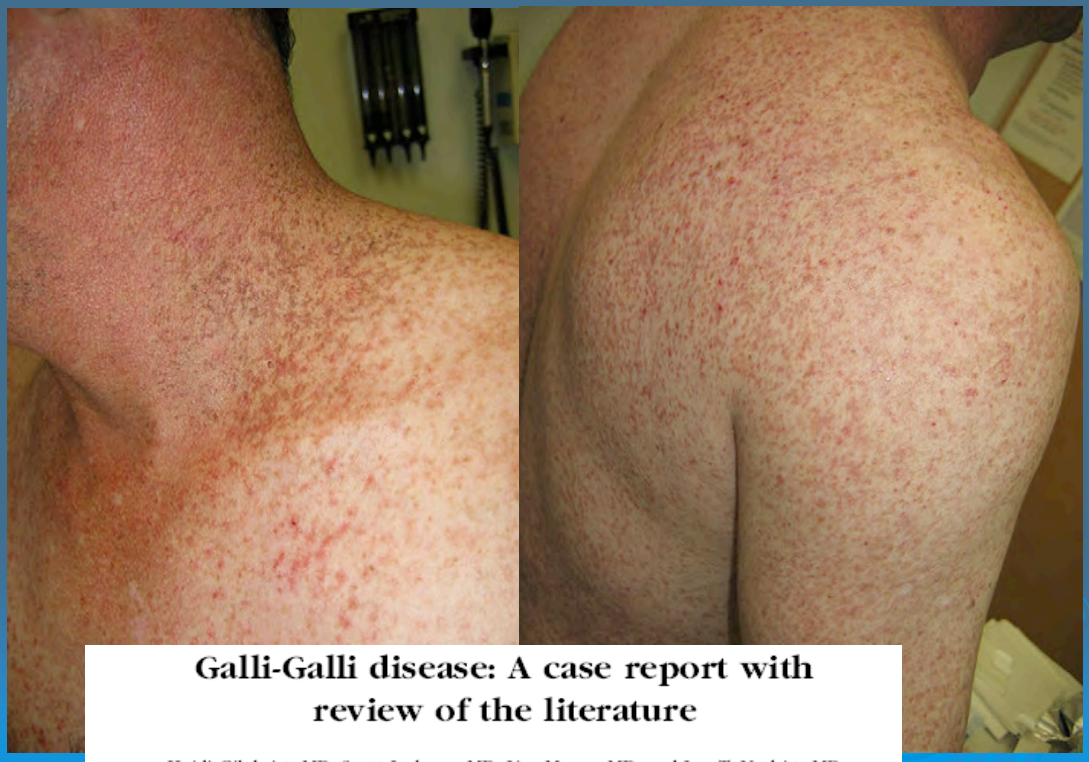
Galli-Galli Disease

- Originally reported by Bardach, Gebhart, and Luger in 1982, who described the disease in two brothers
- A rare acantholytic variant of Dowling-Degos Disease, an autosomal dominant genodermatosis
- Approximately 12 cases reported in the literature

Galli-Galli Disease: Clinical Findings

- M>F, age range 15-56 yrs
- Reddish-brown, hyperkeratotic, scaly, pruritic papules
- Confluent, reticulated hyperpigmented macules
- Involvement of trunk, neck, and both flexor and extensor surfaces of the extremities (vs. Dowling Degos)
- No perioral scars, palmar pits, or nail changes
- +/- Peripheral eosinophilia

Gilchrist 2008; Bardach 2001



Galli-Galli disease: A case report with review of the literature

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J Am Acad Dermatol 2008;58:299-302

Clinical DDx of Galli-Galli Disease

- Dowling-Degos Disease - KRT5
  - Reticulated hyperpigmentation mainly in flexures, perioral pitted scars, comedo-like papules ("dark dots")
- EB Simplex with Mottled Pigmentation - KRT5
  - Widespread reticulated hyperpigmentation, skin fragility (present at birth), blistering, progressive palmoplantar hyperkeratosis
- Reticulate Acropigmentation of Kitamura - KRT5
  - Acral reticulated hyperpigmentation, palmar pits, breaks in dermatoglyphs
- Dyschromatosis Symmetrica Hereditaria - DSRAD
  - Symmetrical reticulated hyper- and hypopigmentation of extremities, usually presents by age 6yo, patients usually Asian.
- Darier's Disease – ATP2A2
  - Hyperpigmented, hyperkeratotic papules in seborrheic distribution, dorsal hands and palms involved, dystrophic nails, white papules on palate

Galli-Galli Disease: Histopathology

- Epidermal acanthosis and hyperkeratosis
- Elongated epidermal rete ridges with bud-like filiform projections, suprapapillary thinning
- Hyperpigmentation of basal layer
- Suprabasilar acantholysis → linear clefts
- Mixed dermal inflammatory infiltrate

Sprecher 2007

Pathogenesis

- Mutation in the KRT5 (Keratin 5) gene on chromosome 12q reported in patients with Galli-Galli disease is believed to lead to:

  → abnormal intermediate filament cytoskeleton

  → compromise in the structural integrity of basal layer keratinocytes → suprabasilar acantholysis

- Hyperpigmentation seen in Galli-Galli, Dowling-Degos, and EBS-MP suggests that keratin 5 probably plays a role in melanin trafficking

Liao et al 2007; Sprecher 2007

Treatment

- Treatment of hyperkeratosis is challenging:
  - Tretinoin and urea cream are irritating and often exacerbate the hyperkeratosis
  - Oral retinoids not helpful

- Therapies reported to improve pruritus have been slightly more successful:
  - NBUVB
  - Prednisone or topical corticosteroids
  - Cyclosporine

Gilchrist 2008; Braun-Falco 2001

Summary

- Galli-Galli disease is an acantholytic variant of Dowling-Degos disease
- Galli-Galli disease should be included in:
  - The clinical DDx of reticulate hyperpigmentation
  - The histologic DDx of focal acantholysis +/- dyskeratosis
- Keratin 5 mutations are found in Galli-Galli, Dowling-Degos, and EBS with mottled hyperpigmentation

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