Case 9
An asymptomatic plaque on the thigh

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Patient 9.1: A 54-year-old Thai woman from Bangkok

Chief complaint: Asymptomatic rash on the left thigh for 2 years

Present illness:
Two years previously, she noticed asymptomatic rash on her left thigh. The rash was stable in size and still asymptomatic. She did not seek out for medical assistance. She denied history of trauma at area of the rash**.**

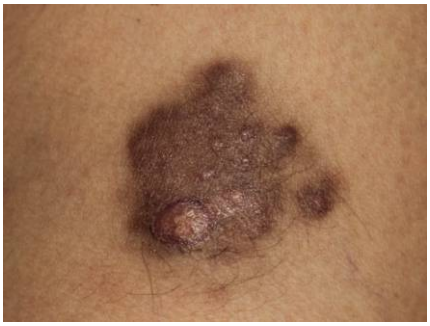
Past history: Diabetes mellitus type 2

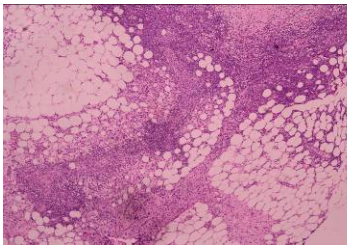
Physical examination:
GA: Good consciousness, not pale, no jaundice
HEENT: Not pale conjunctiva, anicteric sclera,
CVS: Normal S_1S_2, no murmur
RS: Normal breath sound, no adventitious sound
Abdomen: No hepatosplenomegaly
Lymphatic system: No lymphadenopathy

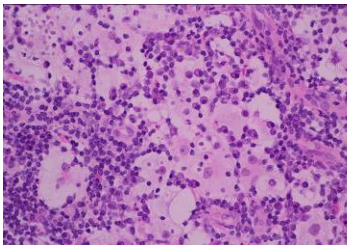
Skin examination:
- Solitary well-defined brownish 3.5 x 4 -centimeter plaque overlying with multiple erythematous papules on left thigh

Histopathology: (S13-028318, left thigh)
- There is dense diffuse inflammatory cell infiltrate of lymphocytes admixed with some plasma cells and large histiocytes
- Some lymphocytes and plasma cells are presented within the cytoplasm of large histiocytes.

Case 9.1







Immunostains:
- Positive for S100, but negative for CD1a in the histiocytes
- Positive for CD3, 4, 8, 20, 68, Kappa and lambda

Investigation:
BUN 7 mg/dL, Cr 0.62 mg/dL
LFT: AST 68 U/L ALT 19 U/L

Diagnosis: Cutaneous Rosai-Dorfman disease

Treatment: Intralesional corticosteroid

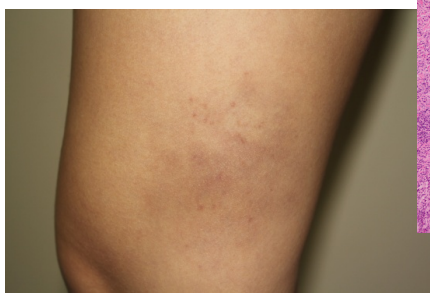
Patient 9.2: A 26-year-old Thai woman from Bangkok
Chief complaint: Rash on the right thigh for 4 months
Present illness:
Four months previously, she noticed an indurated itchy tender rash on her right thigh. The rash was slowly progressive then stable in size.

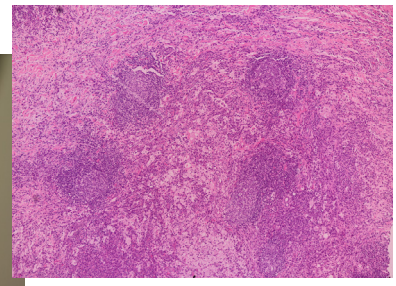
Past history: No underlying disease

Physical examination:
GA: Good consciousness, not pale, no jaundice
HEENT: Not pale conjunctiva, anicteric sclera,
CVS: Normal S_1S_2, no murmur
RS: Normal breath sound, no adventitious sound
Abdomen: No hepatosplenomegaly
Lymphatic system: No lymphadenopathy

Skin examination:
- Solitary subcutaneous indurated light brownish to skin-color 7-cm in diameter plaque on right thigh

Case 9.2





Histopathology: (S13-29291, right thigh)
- There is dense diffuse inflammatory cell infiltrate of lymphocytes admixed with neutroiphils, eosinophils, plasma cells and large histiocytes, some association with lymphoids follicles
- Intact lymphocytes, plasma cells within the cytoplasm of histiocytes
- Immunostains: Positive for CD56 and S100, but negative for CD1a

Investigation:
CBC: Hct 40.7%, WBC 6290 mm^3 (PMN 63% L 30% M 5% E 1% B 1%), Platelet 247,000/mm^3
BUN 13 mg/dL, Cr 0.66 mg/dL
LFT: AST 23 U/L ALT 23/27 U/L
Hepatitis profile: Normal
ANA: Negative
LDH: 163 U/L [100-190]

Diagnosis: Cutaneous Rosai-Dorfman disease

Treatment:
- Intralesional corticosteroid
- Methotrexate 5 mg once weekly

- Folic acid 5 mg once daily
- Dermovate cream apply lesion twice daily

Discussion:

Rosai-Dorfman disease (RDD) or sinus histiocytosis with massive lymphadenopathy (SHML) is an uncommon benign proliferative disorder of non-langerhans cell histiocytosis. The etiology of RDD is uncertain but it is possibly reactive process from infection or disturbance in cell-mediated immunity.[1] RDD is categorized into two forms; systemic and cutaneous forms. Systemic RDD is mainly affecting lymph node and can affect extranodal site, accounting for 40%, which most common site is the skin.[2] Cutaneous RDD is skin limited and tends to have extranodal involvement such as nasal/paranasal sinus, eye/orbit, salivary glands, soft tissue, bone, respiratory tract, gastrointestinal tract, genitourinary tract and central nervous system.[3] The cutaneous form is a rare form that has been reported only 3% of all RDD cases and has benign clinical course with a very small risk of developing systemic involvement.[2,4] The skin manifestations are polymorphic lesions which cannot be made merely distinction between cutaneous and systemic RDD with skin involvement.[2-4] Papulonodular or coalesced plaque is the most common morphologic feature accounting for 80%, followed by indurated plaque and tumor.[2] Ulceration and superficial scaling have also been reported in some cases. Different types of presentation can occur in the same patient. The sites of skin involvement are commonly on extremity, trunk and face, respectively.[2,3] Owing to its variable appearance, the diagnosis could be delayed due to clinical mimicking with other diseases. Therefore, the diagnosis mainly relies on histopathological findings.

The histopathological findings in cutaneous RDD and systemic RDD with cutaneous involvement are similar. The characteristic findings are diffuse mixed inflammatory cell infiltration consist of histiocytes, lymphocytes, plasma cells, and neutrophils in dermis or subcutaneous tissue. Engulfment of inflammatory cell within the cytoplasm of histiocyte called emperipolesis is the pathognomonic of RDD. [1-3,5]

In our patients, the first case presented with papule and plaque, which are the most common clinical manifestation and the second one presented with indurated plaque that is unusual presentation. Both are located on extremity. The histological diagnosis of RDD is encountered. Further special stains showed positive CD68 and S100, and negative CD1a that confirms the diagnosis.

Up until now, no standard treatment has been developed for RDD although various therapeutic strategies have been applied with different outcomes. Due to benign clinical course and usually spontaneously resolving over 1 to 3 years, potentially harmful treatments should be avoided.[4,6] The treatment options include topical/intralesional/systemic glucocorticoids, acitretin, isotretinoin, thalidomide, acyclovir, methotrexate, radiotherapy and surgical excision.[7-15] No single option is successful in most cases. The topical glucocorticoids showed mild improvement whereas intralesional and systemic glucocorticoids showed complete remission.[12,15] The low dose methotrexate therapy (7.5 mg/week) also showed complete remission in long term follow up.[7] High-dose thalidomide, dapsone and acitretin have been reported to control the refractory cutaneous diseases.[9,11,13]

In the first case, patient had the single lesion limited on thigh, so we chose intralesional glucocorticoid. Unlike the second case, patient also had single lesion limited on thigh but the lesion was indurated and itchy, the

combination of methotrexate and intralesion glucocorticoid has been prescribed. The lesion of the first case after receiving intralesional glucocorticoid every 4 weeks for 2 times turned to patches without recurrence after 5 months follow-up. The second case after receiving intralesional glucocorticoid every 4 weeks for second times and course of methotrexate 8 weeks, the lesion became not-indurated and asymptomatic without recurrence after 4 month follow up.

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