

CLINICAL IMAGING

## Rash that itches and is all over: look beyond the skin

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Generalized pruritic rash in Hodgkin's disease is most commonly due to paraneoplastic manifestation. It can sometimes precede other manifestations of Hodgkin's disease by weeks or months. Hence, if other possible causes have been ruled out, Hodgkin's disease should be considered a possible cause of generalized pruritic rash. Consideration of Hodgkin's disease as a cause of generalized pruritic rash can help in early identification of Hodgkin's disease. We present a case of a 71-year-old female who presented to the hospital with generalized pruritic rash for 4 days. Further workup revealed Stage IV Hodgkin's disease. The rash completely disappeared after receiving chemotherapy, which established that the rash was paraneoplastic manifestation of Hodgkin's disease.

Keywords: *generalized rash; Hodgkin's Disease; paraneoplastic*

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A 71-year-old female presented to our hospital with complaints of generalized maculopapular pruritic rash for 4 days. The rash first started on the left lower extremity and progressively involved all of her skin except hands and feet. She was previously seen at an outside medical center and was prescribed oral steroids and anti-histamines with no benefit. She had lost 10 lbs over the past month and complained of poor appetite. The review of systems was unremarkable. She denied any history of allergy to any medication or other substance.

Her vital signs on presentation revealed a temperature of 97 F, heart rate of 115/min, respiratory rate of 17, and blood pressure of 115/75. Physical examination revealed diffuse maculopapular erythematous rash sparing the hands and feet (Fig. 1). She had lymphadenopathy

involving her right axillary and inguinal region. The rest of the examination was normal.

Laboratory investigations revealed hypochromic microcytic anemia with hemoglobin of 11.4 g/dl. Computed tomography (CT) scan of chest, abdomen, and pelvis was done, which revealed diffuse lymphadenopathy involving the left supraclavicular region, right hilar region, retroperitoneum (Fig. 2), and right inguinal region with largest lymph node measuring 6 cm × 4 cm (Fig. 3) with involvement of liver and spleen. The findings of CT scan were suggestive of systemic malignancy likely lymphoma. She underwent biopsy of the right inguinal lymph node, which revealed classic Reed Steinberg cells (Fig. 4) and variants



Fig. 1. Rash on presentation.



Fig. 2. Computed tomography scan of abdomen showing retroperitoneal lymphadenopathy.



**Fig. 3.** Computed tomography scan of pelvis showing right inguinal lymph node enlargement.

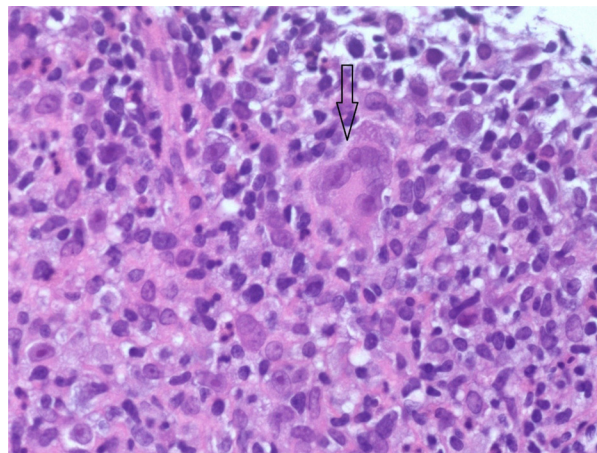
to be positive for CD 30 and PAX 5, thus confirming the diagnosis of classical Hodgkin's disease. Bone marrow biopsy revealed involvement of marrow by Reed Steinberg cells. A diagnosis of Stage IV Hodgkin's disease was made.

The patient was started on chemotherapy with the doxorubicin (adriamycin), bleomycin, vinblastine, dacarbazine (ABVD) regimen. She completed the first cycle during her hospitalization and the rash was noted to be resolving. On follow-up at 1 month for the next cycle of chemotherapy, It was noted that the rash had completely resolved.

## Discussion

Various studies have reported varying incidences of generalized pruritic rash in Hodgkin's disease, some studies reporting up to 25% (1–4). It has been associated with a poor prognosis if associated with other systemic manifestations (5). Though it was proposed by some authors to be included as a B type symptom (2), the Ann Arbor classification does not include generalized pruritic rash as a B type symptom in Hodgkin's disease.

Rash in Hodgkin's disease can be due to various causes – paraneoplastic manifestation, cutaneous spread of tumor, or reactivation of varicella zoster or Parvovirus B infection. Rash due to paraneoplastic manifestation is most often generalized, precedes other clinical signs by weeks or months, and resolves with treatment of Hodgkin's disease (1). Cutaneous spread of Hodgkin's disease occurs in the form of papules and nodules and occurs distal to lymph nodes containing the tumor (3). The distinction of the cause of rash can be made by skin biopsy. Skin biopsy in



**Fig. 4.** Biopsy from the right inguinal lymph node showing Reed Steinberg cell (arrow).

cutaneous spread reveals Reed Steinberg cells (3). In our case, the plausible explanation of our rash is paraneoplastic manifestation considering generalized nature and the maculopapular presentation; however, cutaneous spread of tumor cannot be entirely ruled out unless skin biopsy is performed.

This case highlights the importance of a good systemic examination and considering systemic causes like Hodgkin's lymphoma as a possible cause of generalized maculopapular rash if it is not resolving with usual treatment.

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