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CASE REPORT

A case of granulomatous slack skin cutaneous T-cell lymphoma: PET/CT imaging findings

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ABSTRACT

A 24-year-old female presented with granulomatous slack skin (GSS) cutaneous T-cell lymphoma. The patient underwent systemic chemotherapy. Owing to the development of several chemotherapy-related complications, therapy was discontinued. Subsequently, disease progression was noted clinically. Our patient's disease progression was clearly demonstrated by ^{18}F-fludeoxyglucose positron emission tomography (PET)/CT findings. PET/CT imaging findings of GSS have not yet previously been reported. In this report, we present PET/CT characteristics of a patient with GSS.

CASE REPORT

A 24-year-old black female presented with widespread skin changes on the upper and lower extremities, torso and genitalia. 2 years after the initial presentation, owing to worsening of her skin, she underwent partial vulvectomy. Lesional skin histopathology revealed the diagnosis of granulomatous slack skin cutaneous T-cell lymphoma (GSS CTCL) (Figure 1a,b). Over the course of 3 years, she received a variety of therapies. However, owing to therapy-related complications, she discontinued treatment. While off therapy, new skin lesions and lymphadenopathy developed. Our patient's disease progression was clearly demonstrated by ^{18}F-fludeoxyglucose (FDG) positron emission tomography (PET)/CT findings (Figures 2 and 3).

DISCUSSION

Primary CTCLs are a rare subgroup of non-Hodgkin lymphoma, with an annual age-adjusted incidence of approximately 6.4 per million persons.[1] GSS is a very rare form of CTCL, approximately 50 cases of which have been reported to date.[2] The role of PET/CT in assessing characteristics of CTCL has been recently studied.[3,4] Although sites of cutaneous disease can be evaluated clinically, ^{18}F-FDG PET/CT can help to direct biopsies to the most FDG-avid cutaneous disease site if large cell transformation is suspected.[4] PET/CT also aids in the evaluation of extracutaneous involvement, specifically in the identification of possible nodal disease.[4] Tsai et al[3] also suggested that intensity of nodal FDG activity correlated with histologic lymph node grade.

GSS has been associated with the development of secondary lymphoid neoplasms, including Hodgkin lymphoma.[5] Follow-up with PET/CT can be considered in selected cases.

PET/CT imaging findings of GSS have not yet previously been reported. In this report, we present PET/CT characteristics of a patient with GSS. Our case showed marked FDG activity of the skin lesions and identification of FDG-avid nodal disease, both of which supported the clinical evidence of disease progression.

LEARNING POINTS

1. PET/CT is useful to direct the site of biopsy in case of suspicion for large cell transformation of CTCLs.
2. PET/CT is useful to identify the sites of extracutaneous involvement of CTCLs.
3. As GSS has been associated with secondary lymphomas, PET/CT follow-up can be useful in selected cases.

Figure 1. (a) Atypical lymphocytes infiltrate the epidermis (epidermotropism) (400×). (b) Non-necrotizing granulomatous inflammation in the dermis with multinucleated histiocytic giant cells, admixed with atypical lymphocytes (400×).

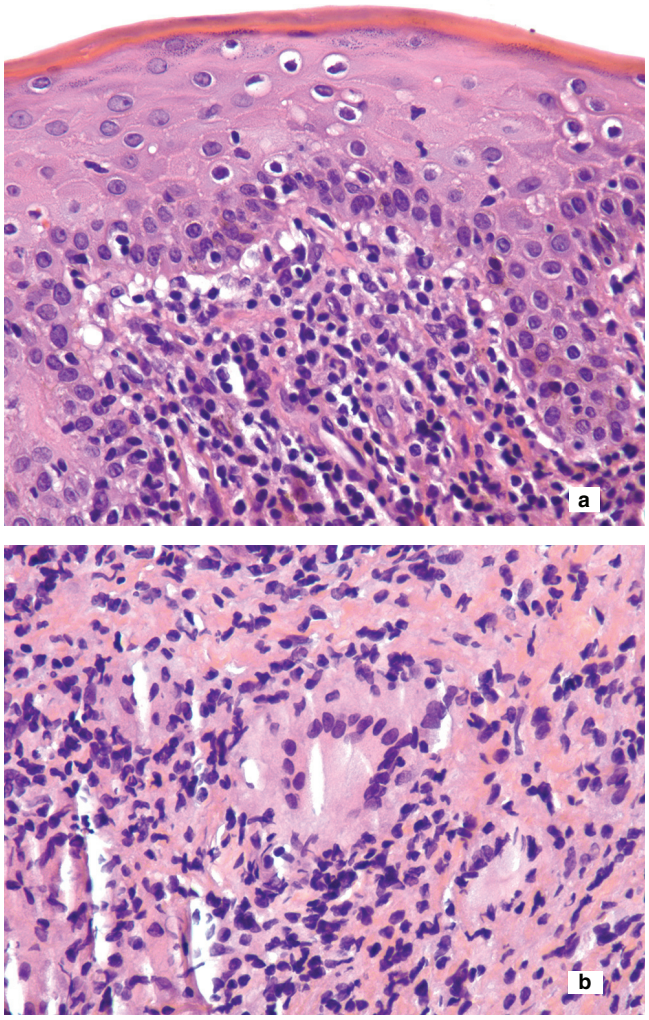


Figure 2. Axial fused positron emission tomography/CT image shows right axillary hypermetabolic adenopathy as well as marked skin thickening associated with hypermetabolic activity at the opposing skin folds of the right axillary region.

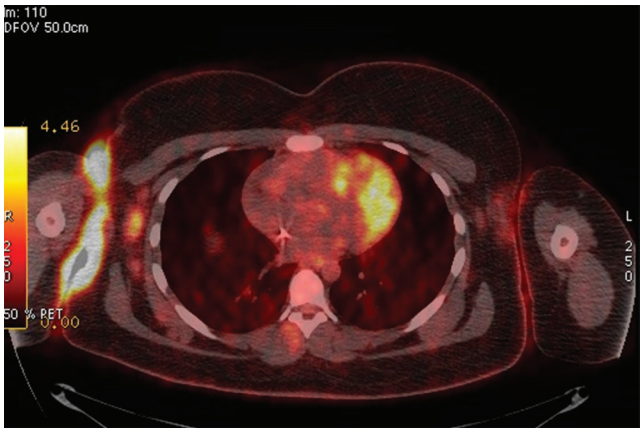
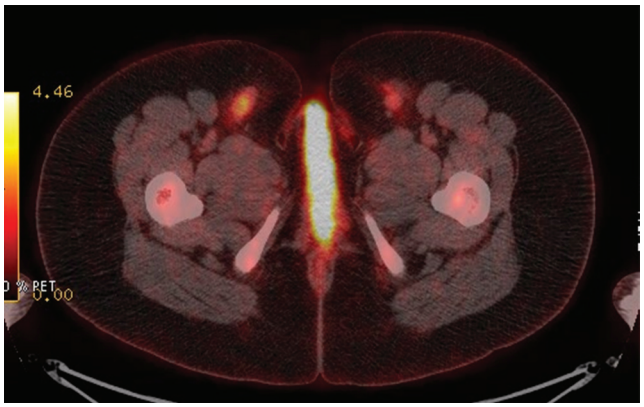


Figure 3. Axial fused positron emission tomography/CT image shows bilateral hypermetabolic inguinal lymph nodes and hypermetabolic activity of the vulvar region.



REFERENCES

1. Criscione VD, Weinstock MA, Vincent D. Incidence of cutaneous T-cell lymphoma in the United States, 1973–2002. *Arch Dermatol* 2007; **143**: 854–9. doi: 10.1001/archderm.143.7.854
2. Kempf W, Ostheeren-Michaelis S, Paulli M, Lucioni M, Wechsler J, Audring H, et al; Cutaneous Lymphoma Histopathology Task Force Group of the European Organization for Research and Treatment of Cancer. Granulomatous mycosis fungoides and granulomatous slack skin: a multicenter study of the cutaneous lymphoma histopathology task force group of the European Organization for Research and Treatment of Cancer (EORTC). *Arch Dermatol* 2008; **144**: 1609–17. doi: 10.1001/archdermatol.2008.46
3. Tsai EY, Taur A, Espinosa L, Quon A, Johnson D, Dick S, et al. Staging accuracy in mycosis fungoides and Sezary syndrome using integrated positron emission tomography and computed tomography. *Arch Dermatol* 2006; **142**: 577–84. doi: 10.1001/archderm.142.5.577
4. Feeney J, Horwitz S, Gönen M, Schöder H. Characterization of T-cell lymphomas by FDG PET/CT. *AJR Am J Roentgenol* 2010; **195**: 333–40. doi: 10.2214/AJR.09.3665
5. Jawed SI, Myskowski PL, Horwitz S, Moskowitz A, Querfeld C. Primary cutaneous T-cell lymphoma (mycosis fungoides and Sezary syndrome). *J Am Acad Dermatol* 2014; **70**: 205.e1–16. doi: 10.1016/j.jaad.2013.07.049