Gynecologic Oncology Reports 22 (2017) 4–8

Contents lists available at ScienceDirect

Gynecologic Oncology Reports

journal homepage: www.elsevier.com/locate/gynor

Case series

Langerhans cell histiocytosis limited to the female genital tract: A review of literature with three additional cases

Rebekah Wieland[a,c,*], Jenna Flanagan[b], Elise Everett[b], Sharon Mount[c]

[a] College of Medicine, University of Vermont, Burlington, VT, USA
[b] Gynecological Oncology, Department of Obstetrics, Gynecology and Reproductive Sciences, The University of Vermont Medical Center, Burlington, VT, USA
[c] Department of Pathology and Laboratory Medicine, The University of Vermont Medical Center, Burlington, VT, USA

ARTICLE INFO

Keywords:
Langerhans cell histiocytosis
Histiocytic neoplasm
Dendritic neoplasm
Vulva
Cervix

1. Introduction

Langerhans cell histiocytosis (LCH) is a tumor composed of a proliferation, usually clonal, of cells sharing morphologic and immunophenotypic characteristics with skin Langerhans cells, and is classified amongst other histiocytic and dendritic cell neoplasms (Cancer, 2008). Presentation can vary from single organ involvement to disseminated, multi-system disease. Clinical aggressiveness is equally variable. In 1939 Andrews first described LCH of the female reproductive tract, subsequently four patterns of involvement have been identified: (a) pure genital LCH, (b) genital tract LCH with subsequent multi-organ involvement, (c) oral or cutaneous LCH with subsequent genital and multi-organ involvement, and (d) diabetes insipidus with organ involvement (Axiotis et al., 1991). Sites include the vulva, vagina, cervix and endometrium, with vulva being the most common site. A comprehensive literature review revealed 35 cases of pure genital LCH. We report two new cases of solitary LCH lesions involving the vulva and one involving the cervix to the literature.

2. Case 1

GH is a 26 year old female who presented in May of 2015 with vulvar pruritis and a painful vulvar lesion for 4 days. On history she denied thirst, skin rash, headaches, bone pain, or hearing loss. Her medical history was notable for a history of chlamydia and she was a current smoker. On clinical examination a 2 mm pruritic and painful raised papule on the left labia minora was noted. Herpes simplex virus (HSV) collection was performed and the patient was empirically started on Valcyclovir. HSV results returned negative and Valcyclovir was discontinued. A vulvar biopsy was performed two weeks after initial presentation and confirmed LCH. The patient was referred to a medical oncologist who performed a complete systemic workup.

The pathologic specimen revealed a nodular collection of reniform Langerhans cells associated with an eosinophilic-rich inflammatory infiltrate (Fig. 1a, b). The Langerhans cells demonstrated CD1a (clone) and S100 (clone) immunoreactivity (Fig. 1c, d) The patient was referred to a gynecologic oncologist for consideration of a larger surgical excision. However, the lesion had been completely excised following the biopsy, and no additional surgery was performed. She was placed into surveillance per the National Comprehensive Cancer Network (NCCN) guidelines, with follow-up planned every 3–6 months for 2 years, then 6–12 months for 3–5 years and then annually. The patient remains disease free for 23 months.

3. Case 2

BM is a 67 year old female who presented in June 2006 with a pruritic vesicle at 1 o'clock on her left labia majora for an unspecified amount of time. Her past medical history is significant for combined urge and stress incontinence, eczema, hypertension, hyperlipidemia, arthritis, diabetes mellitus type 2, and polymyalgia rheumatic. Clinical examination was normal except for a small vesicle on the left labia majora. An HSV culture was negative. She failed treatment with a topical steroid and the persistent raised pruritic lesion was then biopsied

* Corresponding author at: College of Medicine, University of Vermont, Burlington, VT, USA.
E-mail address: Rebekah.Wieland@med.uvm.edu (R. Wieland).

http://dx.doi.org/10.1016/j.gore.2017.08.005
Received 4 July 2017; Received in revised form 17 August 2017; Accepted 24 August 2017
Available online 26 August 2017

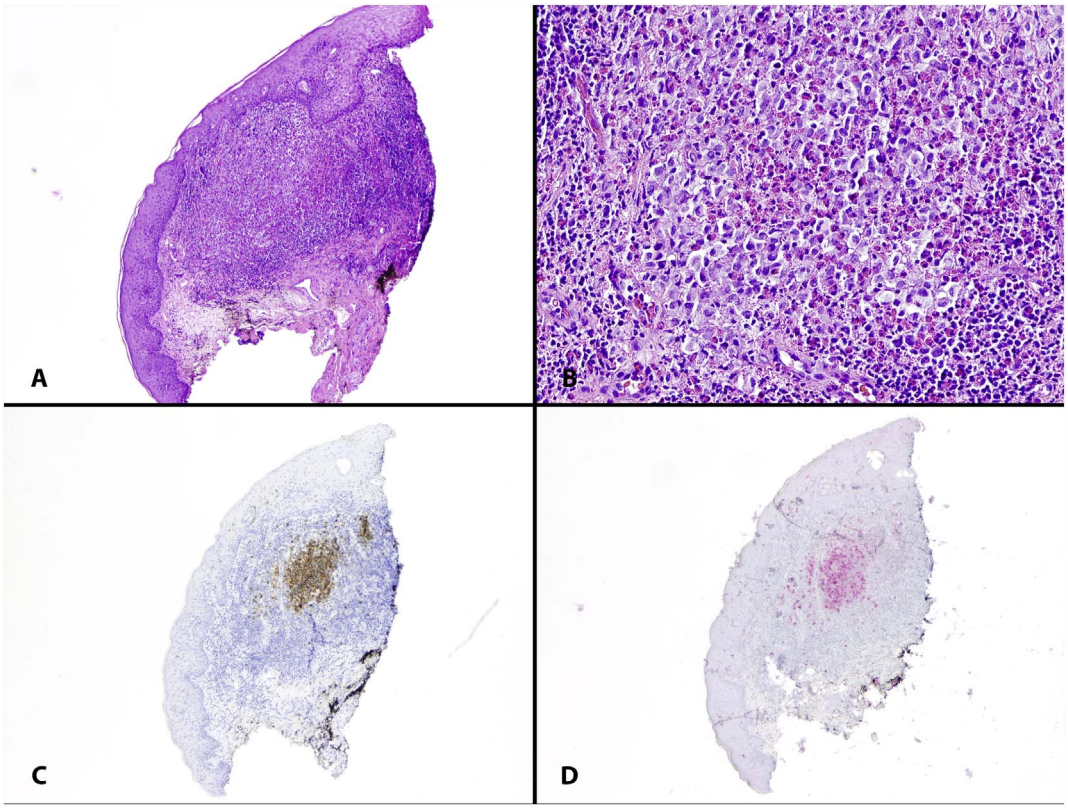

Fig. 1. (a) Low power of vulva depicting lesion. Hematoxylin and eosin stain, 40 × (b) histiocytes and eosinophils within lesion, 200 ×, immunohistochemical staining of neoplastic LCH cells, magnification 40 ×. (c) CD1a cytoplasmic staining, (d) S100 nuclear and cytoplasmic staining.

four weeks after initial presentation to clinic.

The pathologic specimen demonstrated increased epidermal and dermal Langerhans cells with Langerhans cell microabscess formation. The Langerhans cells were immunoreactive for CD1a (Dako, 010 clone). Additionally, there was a superficial dermal inflammatory infiltrate containing lymphocytes and eosinophils. Unlike Case #1, this patient did not undergo a systemic workup, nor was she entered into clinical surveillance per the NCCN guidelines due to loss to follow up. She later presented with lichen simplex chronicus (LSC) on her neck, waistline and antecubital fossa. Clinical examination revealed intact genital anatomy with no atrophy or erosions, mild lichenification, and atopic dermatosisis with LSC. At this time she was encouraged to apply hydrocortisone cream for the treatment of LSC. The patient remains disease free from her LCH for 10 years, 10 months.

4. Case 3

AR is a 31 year-old woman with Hepatitis C, history of intravenous drug use, smoking and an extensive history of cervical dysplasia for over a decade. She presented in 2012 for colposcopy following a Pap smear revealing a high-grade squamous intraepithelial lesion (HSIL).

A biopsy performed during the colposcopy demonstrated a collection of cells in the dermis with Langerhans morphology, which were immunoreactive for CD1a (Leica, MTB1 clone) and S100 (Ventana, 4C4.9 clone) (Fig. 2a–d). Gynecological examination revealed copious discharge from the vagina and a multiparous, shortened cervix due to prior loop electrosurgical excision procedure (LEEP) with an otherwise normal exam. At this time the patient complained of polydipsia and polyuria, some memory difficulties, a rash on her chest, some lesions of the left lower extremity and knee, fatigue, weight loss, fevers and a nonproductive cough; all of which were suspicious for a multisystemic process. Physical exam revealed a resolving rash on her chest with small raised, red flaky, eczematous lesions, and a small resolving red lesion on left knee with no other notable findings. No biopsy was performed of the skin due to its quick resolution. A hematology oncology consult and full metastatic evaluation including extensive blood work, imaging (full body PET CT, head MRI) and a bone marrow biopsy were negative. It is unclear why she had these concurrent symptoms, but due to the extensive testing it is unlikely that it was due to LCH. Given the possible malignant nature of LCH, a simple hysterectomy was performed for local control. The tumor was 1.2 cm wide × 0.12 cm deep and was localized to the cervix without involvement of the endometrium or uterine body (Fig. 3a,b). No adjuvant treatment was recommended and the patient was entered into surveillance according to the NCCN guidelines. The patient remains disease free from her LCH for 54 months.

5. Discussion

Histiocytes belong to the monocyte-macrophage lineage, a family which includes most types of dendritic cells. The latter are cells specialized in antigen presentation and play an important role within both the innate and adaptive immune responses. Langerhans cells, in turn, are a special type of dendritic cell, resident within the skin, with the capacity for antigen uptake and subsequent migration to draining lymph nodes for antigen presentation to antigen-specific B and T cells (Badalian-Very et al., 2013). LCH was first known as “Histiocytosis X”, and has previously been described as Hand-Sculler-Christian disease (chronic disease characterized by triad of diabetes insipidus, exophthalmos and multifocal lytic bone lesions), Letterer-Siwe's disease (acute dissemination with multisystem involvement), and eosinophilic granuloma (benign form restricted to one organ), depending on clinical manifestation (Lichtenstein, 1953). Such names, however, are now considered historical and should be replaced by LCH (Broadbent et al., 1994).

Until recently, LCH was difficult to differentiate from other