Russell Body Cervicitis: Report of A Case and Review of The Literature

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Citation

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Abstract

Russell bodies are not uncommon in reactive plasma cells with distinctive intra-cytoplasmic eosinophilic inclusions. However, Russell body cervicitis is uncommon with only one previously reported case in the English literature. We report a case of Russell body cervicitis in a 29-year-old female who presented with post-coital bleeding and the subsequent examination showed a benign cervical polyp that was excised. One-year follow-up was uneventful.

INTRODUCTION

Normal cervix includes a population of inflammatory cells including lymphocytes and plasma cells that is regarded similar to Waldeyer's ring in the pharynx.[1] Chronic cervicitis is relatively a common pathology in the cervix and can only be diagnosed when the women is symptomatic or in the presence of lymphoid follicles. [1] Russell bodies are accumulation of condensed immunoglobulin within the cytoplasm of plasma cells [2] which can be seen in inflammatory as well as neoplastic processes such as plasmacytoma and B-cell lymphomas.[3]

Russell bodies in cases of chronic gastritis have been described previously in the literature some of which are associated with Helicobactor pylori infection.[3,4,8] However, to the best of our knowledge, there is only one previously reported case in the English literature of Russell body cervicitis.[5]

CASE REPORT

A 29-year-old female, with a history of miscarriage (three weeks previous to current presentation), presented with a short history of post-coital bleeding. On clinical examination, a small polyp was found protruding from the cervix, which was subsequently excised and sent for histological examination. There was no history of cervical intraepithelial neoplasia or HPV infection.

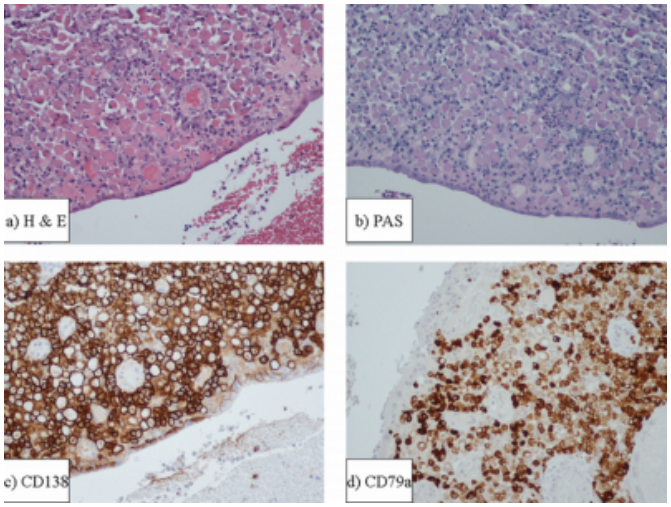
Macroscopically, there were two pieces of hemorrhagic tissue one of which included a light brown polypoid fragment 2cm in maximum dimension.

Microscopy showed fragments of a severely inflamed cervix one of which from a benign endocervical polyp. In one of the fragments, there was intense stromal infiltrate of plasmacytoid cells with eccentric nuclei and containing prominent eosinophilic intra-cytoplasmic globules (Russell bodies) (figure1a). The globules showed PAS positivity on histochemistry (figure 1b). On immunohistochemistry (figure 1c and d), the cells were positive with CD138 (plasma cell marker) and CD79a (B-cell marker) confirming them to be plasma cells. They were negative with MNF-116 (epithelial marker) and S-100 (melanocytic marker). CD68 (macrophage marker) staining was not conclusive. Kappa and Lambda immunostains showed a polyclonal pattern confirming the non-neoplastic nature of the plasma cells.

A diagnosis of Russell body cervicitis was made. The patient was well with no evidence of recurrent symptoms one year following the initial presentation.

Figure 1

Figure 1: The endocervical polyp contained numerous plasma cells with intracytoplasmic Russell bodies (a). Russell bodies were positive with PAS stain (b) and the plasma cells were strongly positive with CD138 (c) and CD79a (d).



DISCUSSION

It is widely accepted that Russell bodies are accumulation of immunoglobulin within the rough endoplasmic reticulum of plasma cells [6] and are commonly found in inflammatory conditions. However, they have also been demonstrated to be associated with some neoplastic conditions such as lymphomas and multiple myeloma. [7]

Russell body gastritis has been described previously in the literature [3, 4, 8] some of which are associated with Helicobactor pylori infection. [4] However, searching the literature identified only one case of Russell body cervicitis. [5] This was a case of an asymptomatic 35-year-old woman who underwent a routine cervical smear test that showed evidence of CIN 1. The subsequent biopsy showed no evidence of CIN and the cervical stroma contained abundant plasma cells with Russell bodies. A follow-up colposcopy and smear were normal six months after the initial investigation.

Our case demonstrated similar histology and immunoprofile to the previous case, however the clinical presentation was different and there was no history of CIN or HPV infection in our case.

It is important to recognize this unusual pattern of inflammation as the infiltrate can sometime be confused with signet ring cells of carcinoma or indeed plasmacytoma. However, high-power examination and immunolabelling help to reach the correct diagnosis.

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References

1. Craig P, and Lowe D. Non-neoplastic conditions of the cervix. In Haines and Taylor Obstetrical and Gynaecological Pathology. London: Churchill Livigstone, 2003. 5th ed. p 280.
2. Hsu, SM et al. Russell bodies. Am Soc Clin Pathol.1982; 77:26-31.
3. Erbersdobler A, Petri S, Lock G. Russell body gastritis: an unusual, tumor-like lesion of the gastric mucosa. Arch Pathol Lab Med. 2004; 128: 915-7.
4. Tazawa K, Tsutsumi Y. Localized accumulation of Russell body-containing plasma cells in gastric mucosa with Helicobacter pylori infection: "Russell body gastritis." Pathol Int. 1998;48: 242-244.
5. Stewart CJ, and Leake R. Reactive plasmacytic infiltration with numerous Russell bodies involving the uterine cervix: 'Russell body cervicitis'. Pathology. 2006; 38(2):177-9..
6. Matthews JB. The immunoglobulin nature of Russell bodies. Br J Exp Pathol. 1983; 64: 331-5.
7. Kurihara K, Sakai H, Hashimoto N. Russell body-like inclusions in oral B-lymphomas. J Oral Pathol. 1984; 13: 640-9.
8. Ensari A, et al. An unusual presentation of Helicobacter pylori infection: so-called "Russell body gastritis".Virchows Arch. 2005;446(4):463-6.

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