



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Chronic expanding hematoma, ruptured through the skin 53 years after buttock contusion



Daichi Morioka*, Fumio Ohkubo, Kazuya Umezawa

Department of Plastic and Reconstructive Surgery, Showa University, Tokyo, Japan

ARTICLE INFO

Article history:

Received 29 October 2013

Received in revised form 20 January 2014

Accepted 4 March 2014

Available online 20 March 2014

Keywords:

Chronic expanding hematoma

Buttock

Soft tissue tumor

Differential diagnosis

ABSTRACT

INTRODUCTION: Chronic expanding hematoma is a relatively rare complication of soft tissue trauma and often clinically mistaken for a malignant neoplasm.

PRESENTATION OF CASE: A 71-year-old female presented with a chronic expanding hematoma that ruptured through the buttock skin 53 years after the original contusion. The diagnosis of CEH was made based on the results of the biopsy, physical examination, and CT. The tumor was completely excised, and the defect was covered with a rhomboid flap.

DISCUSSION: There are no reports of lesions rupturing through the skin. Almost all instances of chronic expanding hematoma previously reported in the English literature have a history ranging from 1 month to 20 years. There is a report of a thorax CEH that ruptured into the lung parenchyma after 24 years, so it is conceivable that other subcutaneous CEHs could break through the skin several decades after their inception.

CONCLUSION: Once this lesion has ruptured, its differentiation from other entities becomes more complicated.

© 2014 The Authors. Published by Elsevier Ltd. on behalf of Surgical Associates Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

1. Introduction

Chronic expanding hematoma (CEH) is a relatively rare complication of significant soft tissue trauma. It presents as a gradually enlarging subcutaneous mass, which may be mistaken clinically for a malignant neoplasm.¹ We present herein a patient with a CEH that ruptured through the skin of the buttock 53 years after the original contusion. We also review the differential diagnosis of this condition.

2. Case report

A 71-year-old woman with no significant medical history was referred to the Department of Plastic and Reconstructive Surgery, Showa University Hospital, in March 2012 with a bleeding tumor on her right buttock. Ever since she was hit in the right buttock with a ball in high school, a persistent, small subcutaneous induration had been present at the site. Although it gradually enlarged over time, it did not cause her any other problems for 53 years. In February 2012 she had a sudden oozing of blood, with no apparent cause, from the buttock skin above the induration. A few days later, a tumorous lesion broke through the bleeding skin. Although a

malignant neoplasm such as angiosarcoma or squamous cell carcinoma was suspected by the treating dermatologists (also at Showa University Hospital), an incisional biopsy revealed a fibrous capsule with a large amount of hemosiderin deposition, indicating a benign cystic lesion.

The patient was referred to the Department of Plastic and Reconstructive Surgery after the biopsy. Her physical examination revealed a bleeding tumor, measuring 5 cm × 5 cm, on the right buttock (Fig. 1). Her blood count and coagulation profile were normal. Computed tomography (CT) demonstrated a solid, homogenous mass in the subcutaneous tissue, with iso-density to muscle and partial ring enhancement (Fig. 2). A diagnosis of CEH was made based on the results of the biopsy, physical examination, and CT.

The tumor was completely excised with a margin of 1 cm on the deep fascia, and the defect was covered with a rhomboid flap. Histopathological examination revealed a cavitory mass lined with clot, inflammatory cell infiltrate, and cholesterol clefts, indicating chronic hematoma (Fig. 3). The wall of the cavity was composed of thick fibrous tissue with hemosiderin-laden macrophages.

The patient's postoperative course was uneventful, and the lesion had not recurred as of January 2013, although the operative scar healed in a slightly hypertrophic manner (Fig. 4).

3. Discussion

The clinical importance of subcutaneous CEH lies in its differential diagnosis, which includes hemangioma, dermoid cyst,

* Corresponding author at: Department of Plastic and Reconstructive Surgery, Showa University, 1-5-8 Hatanodai, Shinagawa-ku, Tokyo 142-8866, Japan.
Tel.: +81 3 3784 8548; fax: +81 3 3784 9183.

E-mail address: dmorioka@gmail.com (D. Morioka).



Fig. 1. Preoperative photograph of the mass over the right buttock.



Fig. 4. Postoperative photograph of hypertrophic healing at the incision site.

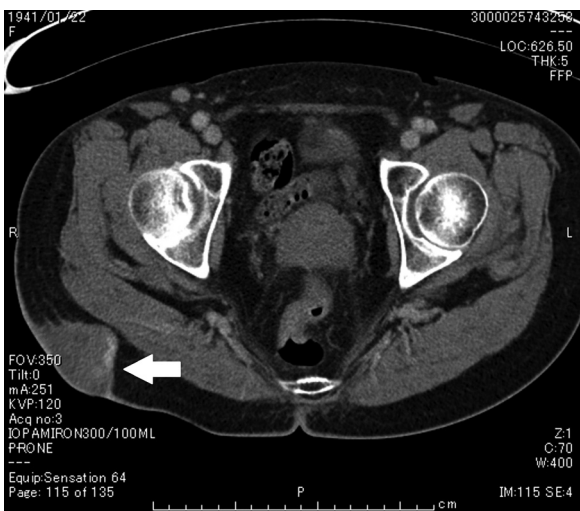


Fig. 2. Enhanced computed tomography, showing a homogenous mass with partial ring enhancement (arrow).

chronic abscess, and soft tissue sarcoma.^{1,2} CEH is often mistaken for other entities that present as enlarging masses following minor trauma, including arteriovenous fistula, nodular fasciitis, and ossifying myositis.²

The pathogenesis of CEH seems to be same as that of chronic subdural hematoma.² Chronic inflammation and increased capillary permeability caused by trauma or surgery are implicated, with a critical clot volume needed for enlargement to occur. The

breakdown products of erythrocytes, hemoglobin, leukocytes, and other solid blood elements induce the formation of a fibrous capsule surrounding the hematoma; this capsule, in turn, leads to the growth of the hematoma.

To the best of our knowledge, subcutaneous CEH has never before been reported to persist over an interval as long as 53 years. Almost all instances of CEH previously reported in the English literature have a history ranging from 1 month to 20 years,^{1,3} and no lesions have ruptured through the skin. There is a single report of a thorax CEH that ruptured into the lung parenchyma after 24 years,⁴ so it is conceivable that other subcutaneous CEHs could break through the skin several decades after their inception. A ruptured CEH complicates the differential, as it is easily confused with a malignant tumor or a vascular lesion.

Because we have previous experience of CEH, we were able to make the diagnosis of CEH based on the results of the enhanced CT scan and the previous biopsy. However, magnetic resonance imaging is actually the most valuable diagnostic tool.^{1,2,5} In typical cases, T2-weighted imaging of the lesion demonstrates a mosaic pattern with heterogeneous signal intensity, surrounded by a thick pseudocapsule of material with a very low-intensity signal.⁵

Because incomplete excision or aspiration of fluid could lead to recurrence or continued growth, surgical excision is critical.¹ Total resection, including the fibrous pseudocapsule, with a small margin is recommended to avoid recurrence. This is followed by tension-free closure with obliteration of any subcutaneous dead space.

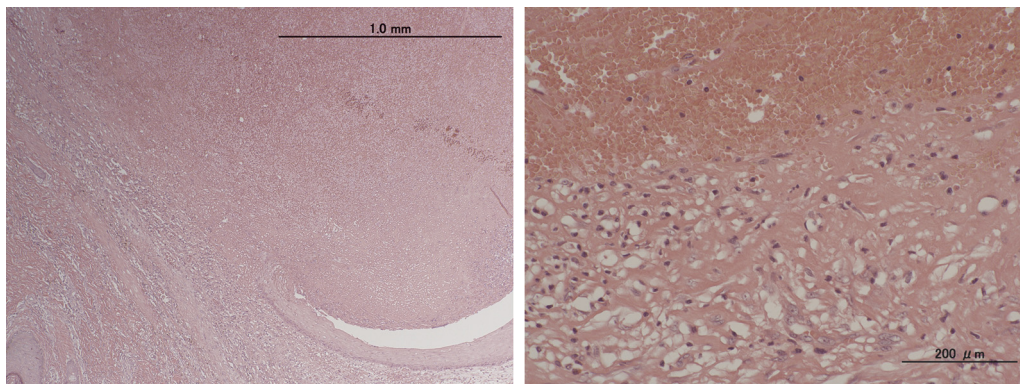


Fig. 3. Hematoxylin and eosin staining of the resected lesion. Left: low-power image (magnification ×40) showing the hematoma breaking through the skin. Right: high-power image (magnification ×200) showing the hematoma (lower part) and surrounding pseudocapsule (upper part).

4. Conclusion

The CEH presentation in our patient is unusual, but it is important to recognize the possibility that CEH may rupture even when it has been present for several decades. Once this lesion has ruptured, its differentiation from other bleeding tumors becomes more complicated.

Conflict of interest statement

None.

Funding

None.

Ethical approval

Patient consent form is attached to the submitted documents.

Author contributions

Case report writing, data collection, and discussion writing were done by D Morioka. Discussion writing was carried by K. Umezawa and F. Ohkubo. Ohkubo also supervised.

References

1. Babu VL, Rana MM, Arumilli BR, Dean T, Brown C, Paul A. Chronic expanding hematomas with interesting presentations. *Iowa Orthop J* 2007;**27**: 108–11.
2. Negoro K, Uchida K, Yayama T, Kokubo Y, Baba H. Chronic expanding hematoma of the thigh. *Joint Bone Spine* 2012;**79**:192–4.
3. Mentzel T, Goodlad JR, Smith MA, Fletcher CD. Ancient hematoma: a unifying concept for a post-traumatic lesion mimicking an aggressive soft tissue neoplasm. *Mod Pathol* 1997;**10**:334–40.
4. Okubo K, Okamoto T, Isobe J, Ueno Y. Rupture of a chronic expanding hematoma of the thorax into lung parenchyma. *J Thorac Cardiovasc Surg* 2004;**127**: 1838–40.
5. Liu PT, Leslie KO, Beauchamp CP, Cherian SF. Chronic expanding hematoma of the thigh simulating neoplasm on gadolinium-enhanced MRI. *Skeletal Radiol* 2006;**35**:254–7.

Open Access

This article is published Open Access at scimedirect.com. It is distributed under the [IJSCR Supplemental terms and conditions](#), which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.