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Research Letter

Successful management of a giant primary epidermoid cyst arising in the labia majora

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The occurrence of vulvar epidermoid cysts is uncommon. Vulvar epidermoid cysts are usually multicystic, with the vast majority of locules being <1 cm in diameter [1]. These cysts generally grow slowly and stop growing after reaching 5 cm in diameter [2,3], with the reported largest size of 8 cm × 7 cm [2,4]. It is documented that the clitoris is the most commonly involved structure [2,3,5,6]. The main etiology is female genital surgery or trauma causing an invagination of squamous epithelium and then desquamating into a closed space to form a cystic mass [1,2,5,6]. Most of these cysts require no treatment unless they become infected or painful. Treatment options include local heat application, incision and draining, or excision [1].

Vulvar epidermoid cysts without recallable traumatic or surgical histories are extremely rare [4]. A large vulvar epidermoid cyst may present a surgical challenge. In this report we describe the management for a giant primary epidermoid cyst in the labia majora of an adult woman.

A 33-year-old, gravida 0, para 0 woman presented to the gynecology outpatient department with a right painless vulvar mass, which had been noticed since the age of 12 years. The patient denied sexual exposure or vulvar trauma. Her medical and surgical histories were unremarkable. Recently, the vulvar mass had been increasing in size and interfered with the patient's daily activities, which drove her to seek treatment.

Physical examination revealed a 15-cm soft, movable, and nontender mass in the right labia majora. The mass extended to the pubic rami anteriorly, buttock posteriorly, inner thigh laterally, and labia minora and clitoris medially (Fig. 1). Ultrasound failed to delineate the whole mass. Magnetic resonance image (MRI) disclosed a 12 cm × 9 cm × 6 cm cystic mass in the right labia majora. On T2-weighted imaging, the mass had high signal intensity, lacked contrast enhancement, and mainly located in the subcutaneous tissue without invading the deep compartments of the perineum (Fig. 2).

Under general anesthesia, the patient underwent excision of the vulvar mass. The surgical procedure involved a longitudinal incision of the vulvar skin overlying the most prominent part of the mass, separation of the mass from the surrounding tissues by sharp and blunt dissection, hemostasis of vascular pedicles, minimal trimming of redundant vulvar skin, and reapproximation of the incision wound using interrupt absorbable sutures with minimal tension (Fig. 3). A Penrose drain and a Foley intravesical catheter were placed for 2 days postoperatively. Histopathological examination confirmed an epidermoid cyst lined by stratified squamous epithelium, with the presence of flaky keratinous content. The perioperative hospitalization was smooth, and the patient was discharged uneventfully. The wound at serial follow-up at up to 6 months postoperatively was well-healed without neurological or cosmetic sequelae.

Compared with the literature, this present report illustrates the largest primary epidermoid cyst developing in the labia majora of an adult woman. Based on the information obtained from physical examination and MRI, the differential diagnoses include Bartholin cyst, epidermoid cyst, endometrioma, and Gartner duct cyst. Surgical excision without intraoperative frozen section was therefore performed.

MRI provides valuable information on the possible etiology, mass location, relationship between the mass and surrounding tissue, and treatment planning. MRI has been gaining wider clinical acceptance for pelvic lesions because of its multiplanar capabilities and superb soft-tissue contrast between tumor and

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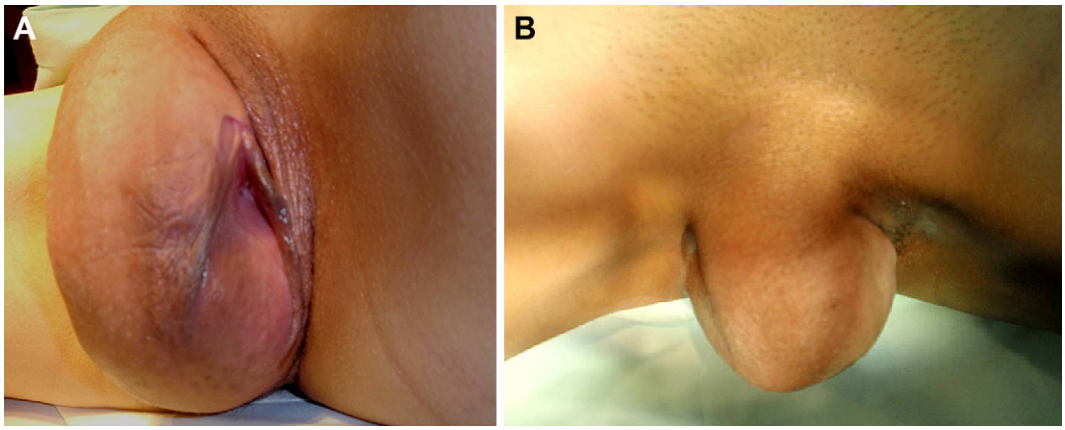

Fig. 1. Caudal (A) and ventral (B) views of a 15-cm, soft, and movable mass located in the right labia majora, with extensions to the pubic rami anteriorly, buttock posteriorly, inner thigh laterally, and labia minora and clitoris medially.

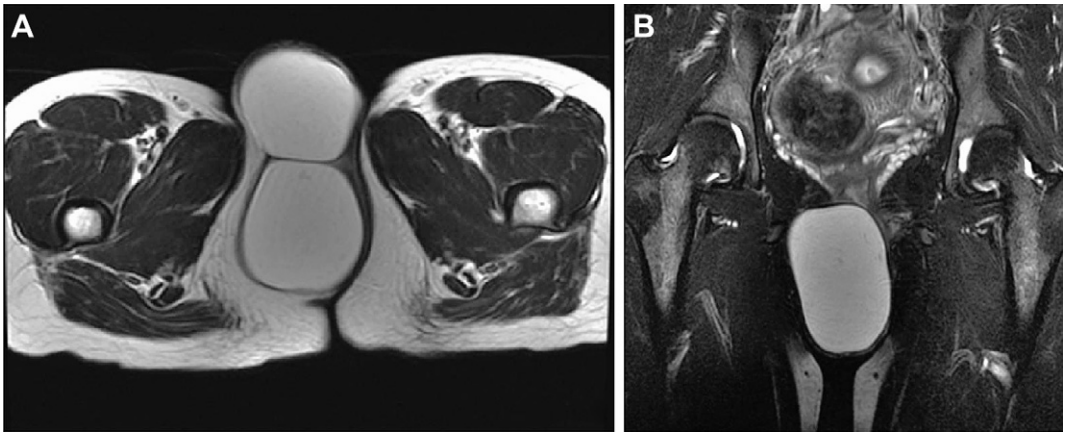

Fig. 2. Axial (A) and coronal (B) T2-weighted images show a 12 cm × 9 cm × 6 cm, well defined, septated cystic mass in the subcutaneous tissue of the right labia majora. The mass had high T2-weighted signal intensity without contrast enhancement.

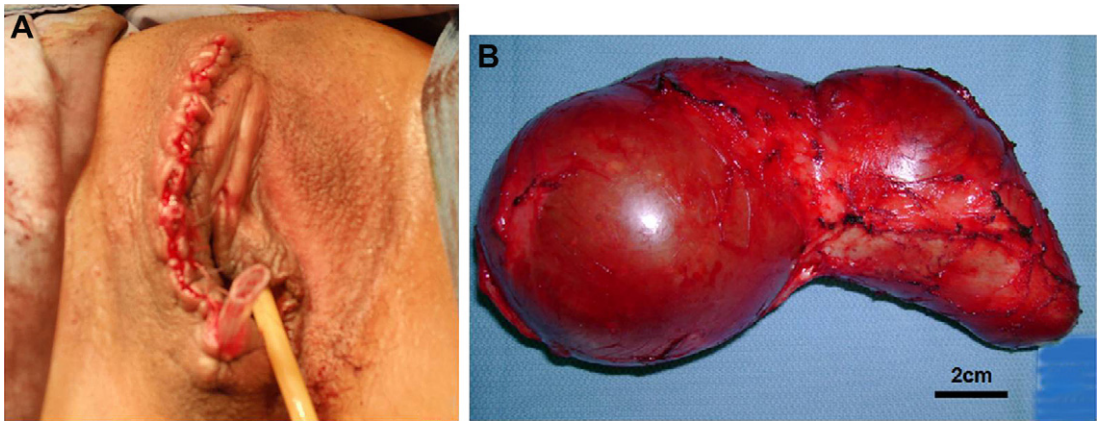

Fig. 3. (A) The vulvar skin was re-approximated with interrupted absorbable suture. A Penrose drain and a Foley intravesical catheter were indwelling. (B) The excised cyst was 15 cm × 7 cm × 7 cm and weighed 410 g.

surrounding tissues [7]. This report demonstrates the value of MRI in investigating vulvar masses.

Surgical excision for a giant vulvar mass may present a challenge. For this patient, the first concern was bleeding that may have been encounter during dissection. Intraoperative bleeding was minimal because the mass was located mainly in the subcutaneous tissue; a region without major vascular structures. Nevertheless, bleeding can be extensive when the dissection is performed near the clitoris or anus where the clitoral or inferior hemorrhoidal branches of the pudendal vessels are vulnerable [8]. Hemostatic sutures should be used when extensive bleeding occurs [8]. The second concern is the

cosmetic outcome following the procedures. Minimal trimming, tensionless closure, and further spontaneous self-shrinkage of the vulvar skin during wound healing allowed a good cosmetic outcome in this patient.

This is believed to be the largest reported primary epidermoid cyst arising in the labia majora. MRI is valuable in guiding the treatment planning. Surgical excision for a giant vulvar epidermoid cyst carries a low risk.

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