

## A pomegranate heart

Jian He<sup>1</sup>, Kefeng Zhou<sup>1</sup>, Guochu Qin<sup>1</sup>, Shizheng Zhang<sup>2</sup>, Bin Zhu<sup>1</sup>

<sup>1</sup>Department of Radiology, Nanjing Drum Tower Hospital, the Affiliated Hospital of Nanjing University Medical School, Nanjing, 210008, Jiangsu Province, China; <sup>2</sup>Department of Radiology, Sir Run Run Shaw Hospital, School of Medicine, Zhejiang University, Hangzhou, 310016, Zhejiang Province, China

### ABSTRACT

Sacrococcygeal teratomas are common in infants while a buttock teratoma is extremely rare in adults. Herein we report a 30-year-old female complaining of left hip swelling and pain for 2 weeks. Ultrasonography demonstrated a subcutaneous cystic mass with multiple dense echo spots inside. MR showed a heart-shaped mass in the left buttock, with multiple "pomegranate seeds" inside, which showed hyperintensity on diffusion weighted imaging. The mass was resected and a buttock teratoma containing yellow sebum-like materials and hairs was confirmed pathologically. A thick walled cystic mass on CT or MR images, which contains multiple small solid nodules or fat, indicates the diagnosis of a teratoma. Timely diagnosis and complete resection bring good prognosis. Adequate follow-up is necessary.

### KEY WORDS

Teratoma; magnetic resonance imaging; diffusion weighted imaging

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A 30-year-old woman complained of left hip swelling and pain for 2 weeks. Physical examination revealed that her left hip was red, swelling and feels hard (Figure 1A). Digital rectal examination revealed no submucosal fluctuant mass. Blood pressure, pulse rate, laboratory tests (including blood, urine and stool routines, blood biochemistry, tumor markers, and immune indexes), chest radiograph and electrocardiogram were unremarkable. Ultrasonography demonstrated a subcutaneous cystic mass, measured 11.37 cm × 8.59 cm, with clear margins and multiple dense echo spots inside. No significant blood flow could be detected by color Doppler flow imaging. MR showed a heart-shaped mass in the left buttock, measured 10.5 cm × 6.0 cm × 4.0 cm, with multiple "pomegranate seeds" inside the cystic signal (Figure 1B-F). A perianal cyst or abscess was suspected and the mass was resected without coccygectomy. Yellow sebum-like materials with hairs were found within the mass (Figure 1G). Microscopically the cystic wall was composed of skin and its appendages, smooth muscles, fat and fibrous

tissues with focal inflammatory granulation tissue hyperplasia. A pathological diagnosis of benign cystic teratoma was established. Teratomas are common in infant but extremely rare in adult. They derive from embryonic pluripotent cells and usually locate in the sacrococcygeal region rather than the buttock. Most commonly, a teratoma appears as a cystic-solid mass with or without septations. It should be differentiated from perianal cyst or abscess, rectal duplication cyst, anal gland cyst, hydatid cyst, anterior meningocele and sacrococcygeal teratoma. A subcutaneous thick walled multiloculated cystic mass on CT or MR images, which contains multiple small solid nodules or fat, with no relationship between sacrococcygeal vertebrae, indicates the diagnosis of a buttock teratoma. Timely diagnosis and complete resection bring good prognosis. However, risk of malignancy increases with age and adequate follow-up is necessary. Our patient presents no recurrence or metastasis during three-year follow-up.

No potential conflict of interest.

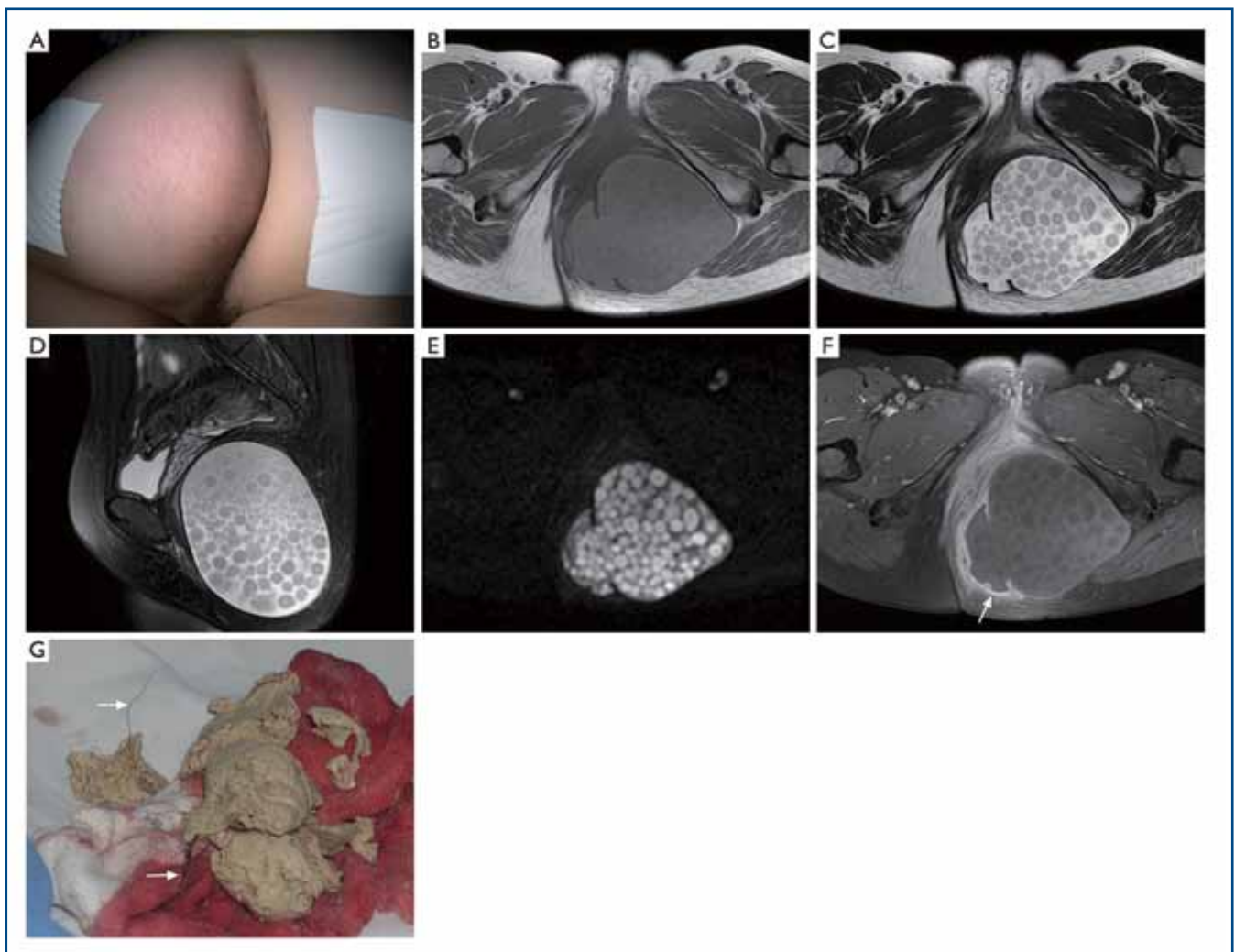
Corresponding to: Bin Zhu, MD. Department of Radiology, Nanjing Drum Tower Hospital, the Affiliated Hospital of Nanjing University Medical School, Nanjing, 210008, Jiangsu Province, P.R.China. Tel: +86-25-83105166; Fax: +86-25-83105166. E-mail: gobinodr@gmail.com.

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**Figure 1. A 30-year-old female with left hip swelling and pain for 2 weeks.** A: Clinical photograph shows the left hip is red swelling; B: Axial gradient echo T1 weighted MR image demonstrates a heart-shaped mass in the left buttock containing multiple hypo- and slightly hyperintense nodules; C: Axial fast spin echo T2 weighted image shows multiple "pomegranate seeds" with a hyperintense center against the background of liquid signal; D: Sagittal fat-saturated fast spin echo T2 weighted image reveals no significant signal suppression of those nodules and no relationship between the mass and sacrum, coccyx or the rectum; E: Echo planar diffusion weighted image shows hyperintensity of the nodules, indicating restricted water molecular diffusion within them; F: Contrast enhanced gradient echo T1 weighted image shows remarkable enhancement of the cystic wall (arrow) without any enhancement of the nodules; G: Yellow sebum-like materials with hairs (arrows) taken out from the cystic mass.

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