An intrapartum coccygeal fracture: An easily missed buttock pain

Dear Editor,

We found an unusual and severe complication intrapartum coccygeal fracture we will report. Low-back and buttock pain is a common complaint during pregnancy and the postpartum period, and it may be due to a variety of conditions. However, intrapartum coccygeal fracture is a very rare condition presenting with non-specific symptoms and clinical signs. To date, only two cases have been published in the literature [1,2], thus, there is very limited information on coccygeal fracture during pregnancy or the immediate postpartum period. We report a case of intrapartum coccygeal fracture to warrant that coccygeal fracture should be considered at early diagnosis when postpartum coccydynia occurs.

A 30-year-old woman, gravida 3, para 0, delivered her first-born child at 38 weeks plus 2 days of gestation. She reported a 24 kg weight gain during pregnancy, her BMI was 28.1 kg/m^2. She was maintained on oral supplemental calcium and vitamin D daily from the second trimester. She had an uneventful course of pregnancy, without high risk factors, such as smoking, gestational diabetes mellitus (GDM), or metabolic bone disease. Before delivery, she received epidural anesthesia to relief the pain. She had a spontaneous, normal vaginal delivery without any forceps or vacuum application. The first stage of labor was 4 h and 40 min, and the second stage was 104 min. She had a healthy baby weighing 3180 g. 3 h after the birth, she complained of a sensation of low-back and buttock pain during walking. The pain worsened with walking, bending, and minor activity and was partially relieved with rest. We further questioned the history, and she had no history of trauma or strenuous physical activity after delivery. On physical examination, the patient showed altered gait pattern, and the pain become even more sever after coccygeal compression. The X-ray positive lateral radiograph was performed, showing that the caudal vertebra is not continuous, the local is slightly displaced to the rear, suggesting the coccygeal fracture occurred (Fig. 1A). A subsequent computed tomography (CT) conformed the diagnosis of fracture of the coccyx (Fig. 1B). Treatment consisted of prolonged bed rest and acetaminophen for pain control, which resulted in favorable outcomes.

The coccyx is surrounded by sacrococcygeal ligaments that provide support for movements. Coccyx can be extended during the birth process as it is parts of the obstetric outlet to give more space available to the fetus [3]. Coccygeal fracture can be easily underestimated because of the non-specific symptom. The main symptom is localized pain, which may be aggravated by sitting on hard surfaces or with poor posture. Diagnosis may be confirmed with the use of diagnostic imaging [4]. Evaluation of calcium, phosphate, and vitamin D levels should be requested to exclude underlying metabolic bone disease [5] which was missed in this case. An upright sitting position is encouraged to prevent further injury and help with recovery, so that the body weight could be transferred from the coccyx to the ischial tuberosities [3]. If necessary, CT can be performed 2 months later to show fracture healing. For future pregnancies, coccygeal fracture may happen again if the patient trying to give birth vaginally, an opting for cesarean section with spinal anesthesia is recommended. This case report warrants that a high index of clinical suspicion is important in the initial assessment of buttock pain during pregnancy and the postpartum period, even though there is no obvious history of difficult second stage of labor.

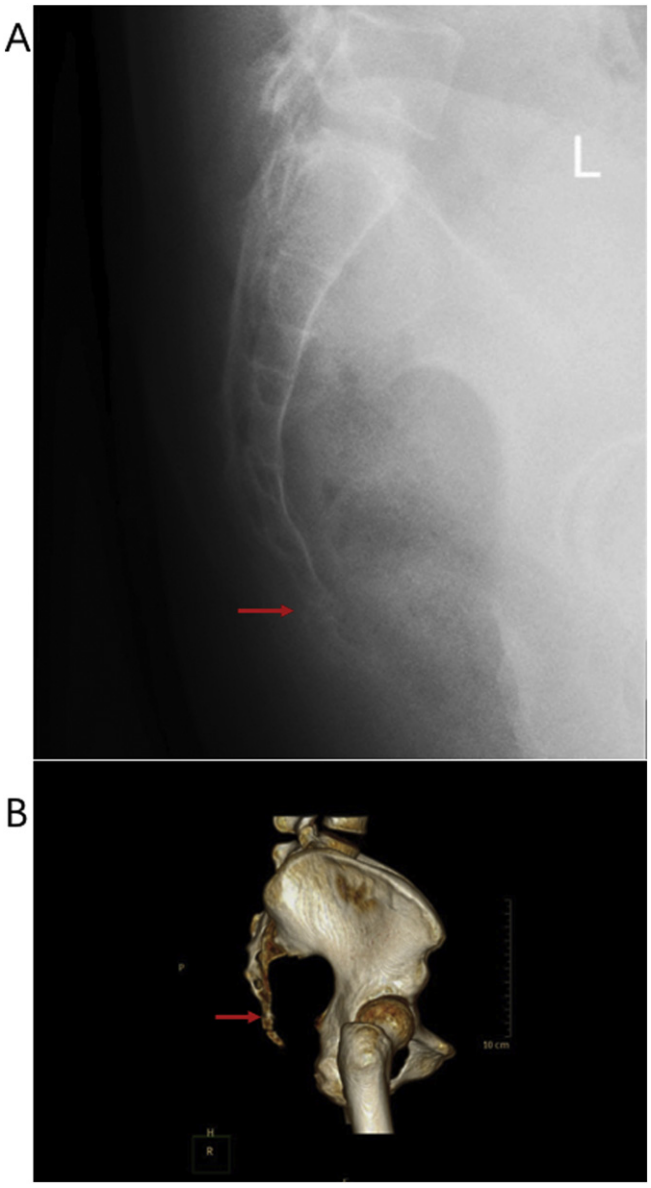

Fig. 1. The X-ray positive lateral radiograph (A) and computed tomography scan (B) showing the caudal vertebra is not continuous, the local is slightly displaced to the rear (red arrow), and the vertebral morphology is irregular (red arrow) (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article).

Patient consent

Written consent was obtained from the patient for the publication of this report.

Conflict of interest

All authors declare no conflict of interest.

Contribution

All authors participated in the design, implementation of the study, and read the final manuscript.

Fang Guo wrote the manuscript, Zhi Yang, Lu Tang, Fang Ming and Ying Guo participated in the writing and edit of the manuscript.

Yuanfang Zhu supervised and edited the manuscript.

References

[1] Kaushal Rishi, Bhanot Arun, Luthra Shalini, Gupta PN, Sharma Raj Bahadur. Intrapartum coccygeal fracture, a cause for postpartum coccydynia: a case report. J Surg Orthop Adv 2005;14(3):136–7.
[2] Maigne JY, Rusakiewicz F, Diouf M. Postpartum coccydynia: a case series study of 57 women. Eur J Phys Rehabil Med 2012;48(3):387–92.
[3] Ryder Isobel, Alexander Jo. Coccydynia: a woman's tail. Midwifery 2000;16 (2):155–60.
[4] Dampc B, Słowiński K. Coccygodynia – pathogenesis, diagnostics and therapy. Review of the writing. Pol Przegl Chir 2017;89:33–40.
[5] Deschamps Perdomo Ambar, Tomé-Bermejo Félix, Piñera Angel R, Alvarez Luis. Misdiagnosis of sacral stress fracture: an underestimated cause of low back pain in pregnancy? Am J Case Rep 2015;16:60–4.

Fang Guo[a,b,1]
[a]*Department of Obstetrics, Baoan Maternal and Child Health Hospital, Jinan University, Shenzhen, China*

[b]*Clinic for Gynecology, Charité-Universitätsmedizin Berlin, Corporate Member of Freie Universität Berlin, Humboldt-Universität zu Berlin, Berlin Institute of Health, Berlin 12203, Germany*

Zhi Yang[2]
Department of Joint Surgery, First Affiliated Hospital of Sun Yat-sen University, Guangzhou, China

Lu Tang
Fang Ming*
Ying Guo
Yuanfang Zhu*
Department of Obstetrics, Baoan Maternal and Child Health Hospital, Jinan University, Shenzhen, China
[1]*Fang Guo contributed equally to this study.*
[2]*Zhi Yang contributed equally to this study.*

* Corresponding author: Yulv Road 56, Baoan District, Shenzhen, Guangdong Province, China.
E-mail address: zhuyuanfang111@163.com (Y. Zhu).

Received 26 March 2019

http://dx.doi.org/10.1016/j.ejogrb.2019.03.027