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Case Report

Congenital anterior shoulder dislocation in a newborn treated with closed reduction

Casey Slattery, BS, Medical Student*, Boris Kovalenko, MD, Orthopedic resident,
Kushagra Verma, MD MS, Assistant Professor of Spine and Scoliosis Orthopedic Surgeon

Department of Orthopaedic Surgery and Sports Medicine, University of Washington, 1959 NE Pacific St, Seattle, WA 98195, USA

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ABSTRACT

Case: This rare case presents an isolated congenital shoulder dislocation in a twin delivery, without traumatic delivery. Delivered by emergent cesarean section at 33 weeks gestation, the infant presented with a lateral shoulder crease with x-rays showing anterior and inferior dislocation. Treatment included prompt reduction and stabilization, with follow-up ultrasound demonstrating a physeal injury.

Conclusions: This case report presents the only published congenital shoulder dislocation in an infant after an atraumatic twin cesarean delivery. Prompt reduction, stabilization, and ultrasound imaging to assess for physeal injury is our recommended management for this scenario.

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Introduction

Orthopedic injury to a neonate is a rare occurrence but usually presents with limited active motion or obvious deformity. Neonatal dislocations can be a result of birth trauma, congenital deformity, or infection. Some pertinent conditions that result in an orthopedic consultation include clavicular and humerus fractures, brachial plexus injuries, compartment syndrome, clubfoot, and joint dislocation [1].

Regardless of delivery method, any apparent flail limb or dislocation does not rule out a congenital abnormality. In the case of a flail upper extremity or shoulder deformity the most common etiologies are clavicular and humerus

fractures, or shoulder dislocation resulting in neonatal brachial plexus palsy due to shoulder dystocia. In the absence of birth trauma and neurologic deficits, a shoulder dislocation is likely congenital. Whitmann et al. [2] classified 3 types of congenital shoulder dislocations: (a) true congenital dislocation developing in utero; (b) traumatic birth directly causing dislocation; and (c) dislocation acquired secondary to a brachial plexus injury. A true congenital shoulder dislocation is considered to be the least common type.

In this case report, we present a congenital shoulder dislocation in the setting of an atraumatic birthing process. To our knowledge this is the first known case of an infant with an inferiorly displaced shoulder dislocation that was reduced successfully after an atraumatic twin cesarean delivery. This

* Corresponding author.

E-mail addresses: cslats@uw.edu (C. Slattery), bkovalen@uw.edu (B. Kovalenko), vermak01@gmail.com (K. Verma).



Fig. 1 – The picture of our patient shows the appearance of the dislocated shoulder with a noticeable lateral shoulder crease.

article discusses the method used to relocate the shoulder, the postoperative management, and a review of the literature. The authors have obtained the patient's informed written consent for print and electronic publication of the case report.

Case presentation

The mother was a 19-year-old G1 P0 with spontaneous dichorionic diamniotic twin gestation, complicated by intrauterine growth restriction of both twins. At 33 weeks, she presented for routine outpatient obstetric follow-up, and was found to have newly diagnosed absent end diastolic flow for twin B. She was subsequently admitted for urgent cesarean section, and underwent primary low transverse cesarean section with delivery of 2 twin boys. Twin B's delivery was notable for being wedged in the right cornua in transverse back down position; he was delivered with standard breech maneuvers, which involves sweeping the arm out of the hysterotomy incision using a digital pressure in the antecubital fossa; nothing remarkable was noted during deliver of the left arm, and no clicks, clunks, or pops were appreciated by the obstetricians performing the delivery. The mother recovered from this uneventfully. At the time of delivery, infants A and B had Apgar scores of 7 and 6 at 1 minute which improved to 9 and 9 at 5 minutes, respectively.

After delivery, the left arm of the twin B was noted to have a crease at the lateral aspect of the shoulder (Fig. 1) and the medical staff noticed decreased spontaneous shoulder movement compared to the contralateral side; x-rays were obtained several hours after delivery, and demonstrated an anterior

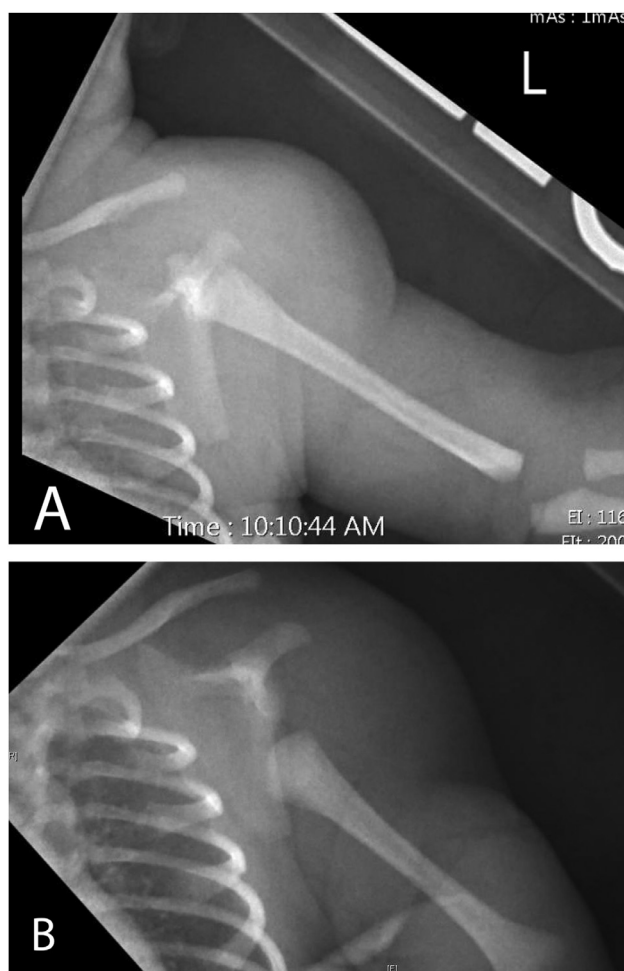


Fig. 2 – Anteroposterior (A) and lateral (B) radiograph showing a dislocated shoulder in the newborn several hours after delivery.

subcoracoid dislocation of the left shoulder with the arm externally rotated (Fig. 2A), and inferior dislocation with the arm at slight internal rotation (Fig. 2B). The contralateral shoulder was not imaged. Orthopedics was consulted to facilitate with reduction of the shoulder.

Upon initial evaluation in the Pediatric Intensive Care Unit, the left shoulder was initially abducted $\sim 120^\circ$, and he spontaneously adducted to midline without grimacing. Grip reflex was intact to the affected extremity, and the hand was pink and perfused. Gentle passive internal and external rotation was relatively well tolerated. Throughout this, there was a palpable void in the glenoid fossa, with a lateral crease just distal to the axilla, which was not present on the contralateral arm.

The reduction was initially attempted with the Kocher maneuver, which consists of elbow flexion to 90° , adduction, external rotation, and forward flexion of the shoulder to lever the humeral head into the glenoid fossa [3]. This was unsuccessful after 2 attempts, so then gentle longitudinal traction was applied via the forearm, and the shoulder was adducted with a finger in the axilla to facilitate reduction. A palpable clunk was felt, and imaging was obtained which confirmed

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