

BIRTH TRAUMA MASQUERADING AS CHILD PHYSICAL ABUSE

Dr. Christine Beeson DO¹, Dr. Lauren Conway DO²

¹Child Abuse Fellow, Department of Pediatrics, University of Oklahoma School of Community Medicine, Tulsa, OK
²Child Abuse Pediatrician, Department of Pediatrics, University of Oklahoma School of Community Medicine, Tulsa, OK

INTRODUCTION

Birth trauma is a common cause of injury to newborn infants that can occasionally be mistaken for abusive injury¹.

Suspected abuse requires additional diagnostic workup and involvement of child protective services and law enforcement.

Neonates with concerning injuries present a diagnostic challenge for child abuse pediatricians and medical personnel.

CASE PRESENTATION

- A 29-day-old male born large for gestation age at 40 weeks gestation with a NICU stay for pulmonary and cardiac problems presented to the hospital with a fever of 105°F.
- Medical history included propranolol for supraventricular tachycardia.

CASE DESCRIPTION

PHYSICAL EXAM

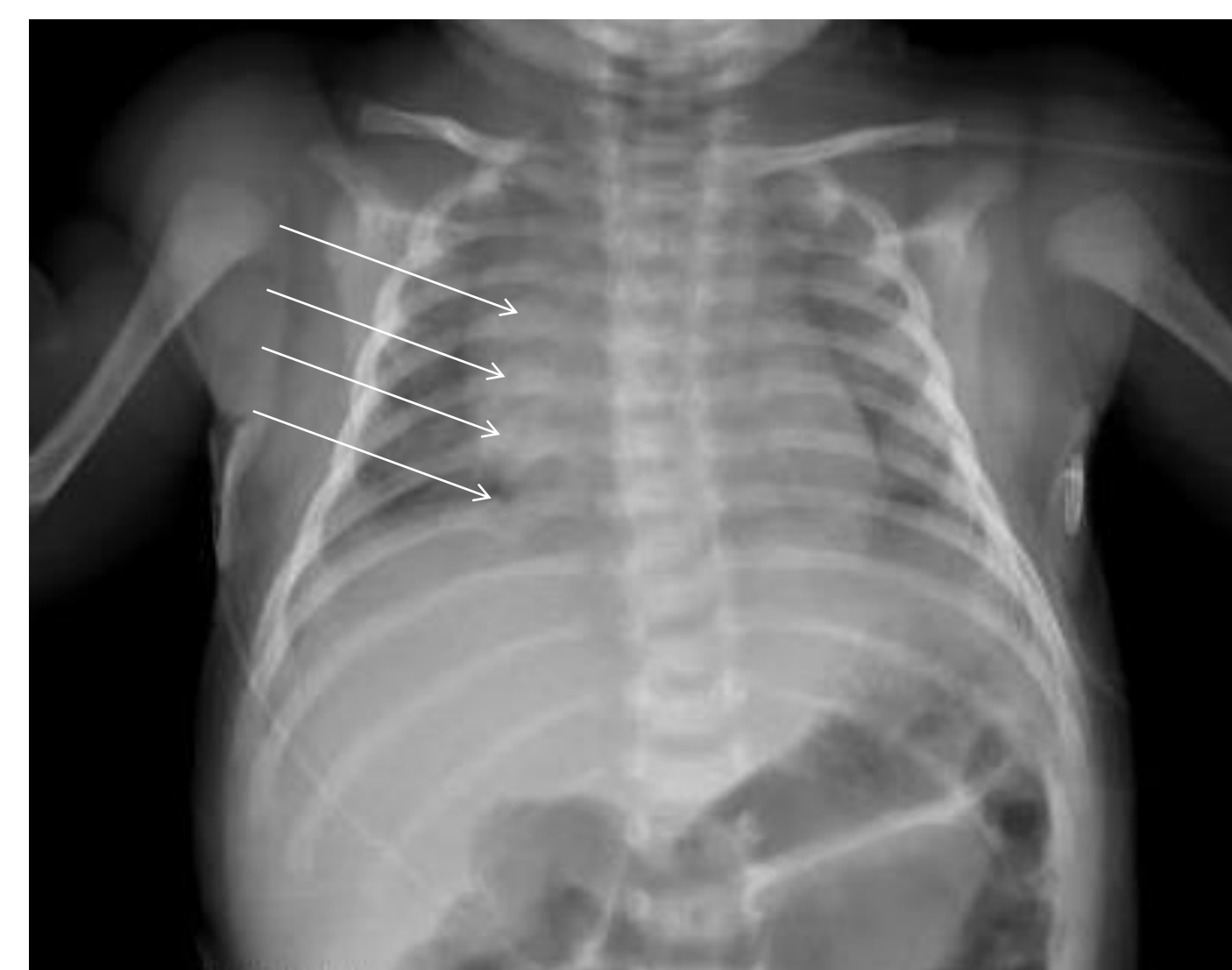
- Fever
- Boggy swelling of the right parietal area

DIFFERENTIAL DIAGNOSIS

- Sepsis in neonate
- Child physical abuse versus birth trauma

TESTS

- Full septic workup revealed Urinalysis/culture with hematuria, elevated WBCs, leukocyte esterase, growth of extended spectrum beta lactamase *E. coli*
- Chest x-ray: right ribs 5-8 with callus formation **indicating subacute rib fractures**
- Skeletal survey: posteromedial 5-8 rib fractures
- Head CT without contrast: right occipital parietal soft tissue swelling



ADDITIONAL MEDICAL HISTORY

- Good prenatal care
- Difficult delivery complicated by six failed vacuum-assist attempts with a pop off, Robertson maneuver, attempted clavicle fracture, and a successful corkscrew maneuver.

FINAL DIAGNOSIS

- Sepsis secondary to pyelonephritis
- Birth trauma

DISCUSSION & REVIEW

- The child received ten days of piperacillin/tazobactam.
- Repeat skeletal survey was negative for acute fractures.
- Physical abuse was ruled out. A diagnosis of residual birth trauma was made based on the subacute rib fracture callus formation, subgaleal hematoma, and birth history.
- Posterior rib fractures in infants are highly specific and suspicious for abusive injury.
- In this case, difficult delivery was pertinent history that helped diagnose birth trauma.
- A detailed history, including birth history, in addition to labs investigating bone disorders should always be obtained when assessing neonates with fractures.

REFERENCES

1. van Rijn, RR, Bilo RAC, Robben SGF. Birth-related mid-posterior rib fractures in neonates: a report of three cases (and a possible fourth case) and a review of the literature. *Pediatr Radiol.* 2009;39:30–34.