Assessment of current epidemiology and risk factors surrounding brachial plexus birth palsy

Joshua M Abzug, MD (1), Charles Mehlman, DO, MPH (2), Jun Ying, PhD (3)
(1) University of Maryland School of Medicine, Baltimore, USA; (2) Cincinnati Children’s Hospital Medical Center, Cincinnati, USA; (3) University of Cincinnati College of Medicine, Cincinnati, USA

INTRODUCTION

• Although brachial plexus birth palsy (BPBP) is quite common, the current incidence is unknown.
• More than 50% of infants with BPBP have no known risk factors.
• Purpose: To determine the current incidence of BPBP and assess known and unknown risk factors,
• Novel Variables to Assess: Hypotonia, Length of stay (LOS) and costs of children with an associated BPBP injury.

RESULTS

• Decreasing Incidence: The incidence of BPBP has steadily decreased from 1997-2012, with an incidence of 0.9 ± 0.01 per 1,000 live births recorded in 2012. (Figure 1)
• Top Risk Factor: Shoulder dystocia (OR 166.01)
• New risk factor: Hypotonia (OR 1.93)
• Remaining Unknown: Fifty-five percent of infants with BPBP still have no known risk factors.
• LOS and Hospital Costs: LOS approximately 20% longer for children with BPBP injuries, hospital stay costs approximately 40% higher for children with BPBP injuries.

METHODS

• Study Design: Retrospective Database Review
• Data Source: Kids’ Inpatient Database, 1997-2012
• Outcomes of Interest: Associated risk factors for BPBP injuries, including LOS data and cost.
• Statistics: Multivariate logistic regression analysis

CONCLUSIONS

• The incidence of BPBP is decreasing over time.
• Shoulder dystocia continues to be the number one risk factor for sustaining a BPBP injury.
• Children with a BPBP injury have longer length of stays and hospital costs compared to children without a BPBP injury.