

## **Abstract**

### **Background**

Subaponeurotic haemorrhage (SAH) is an uncommon but potentially lethal birth injury. It is associated with instrumental delivery especially vacuum extraction. At risk infants should be monitored for the development of hypovolaemic shock which is associated with mortality.

### **Objective**

To determine the incidence, risk factors, management and outcome in neonates with SAH in a tertiary public hospital setting.

### **Methods**

This was a retrospective, descriptive study of neonates diagnosed with SAH admitted to the neonatal unit at Chris Hani Baragwanath Academic Hospital (CHBAH) between 1 January 2016 and 31 December 2017. Maternal and neonatal demographic data, risk factors, management and outcomes to discharge were collected from the REDCap (Research Electronic Data Capture) neonatal database and hospital records. Statistical analysis was conducted using Statistica (version 14.0).

### **Results**

The incidence was 3.5 per 1000 live births. One hundred and seventy-eight neonates with SAH had data for analysis, 73.6% were male. The mode of delivery included, vacuum assisted (74, 41.6%), forceps (4, 2.25) and caesarean section after failed vacuum (9, 5%). Maternal risk factors included being primigravid (125, 70.2%) and prolonged second stage of labour (74, 75.5%). The most common comorbidities were jaundice (61, 34%) and hypoxic ischaemic encephalopathy (36, 20%). There was a decrease in head circumference ( $p=0.026$ ), post treatment with fresh frozen plasma. Eleven neonates (6.2%) required a blood transfusion, 34 (19.1%) required phototherapy and 3 (1.7%) developed hypovolaemic shock requiring inotropic support and demised.

### **Conclusion**

The incidence of SAH was higher than previously reported. All neonates were treated with fresh frozen plasma irrespective of their severity and the overall mortality was low. Prompt recognition and treatment of SAH is associated with improved outcomes.