Lung ultrasound could be used as a screening for hemodynamically significant patent ductus arteriosus (HsPDA) – prospective study

Aim: Determining whether a PDA is hemodynamically significant or not (non-HsPDA) is clinically relevant to evaluate the risk of associated morbidities and to determine subsequent management courses such as the need for intervention. A known consequence of HsPDA is pulmonary edema. The aim of the study is to evaluate whether the assessment of pulmonary edema by lung ultrasound is a reliable sonographic indicator of HsPDA. Lung ultrasound could then be an accessible bedside tool used to evaluate if a PDA is hemodynamically significant and to assist with decision-making regarding its management along with other clinical and echocardiographic indicators.

Methods: We conducted a prospective study of 20 infants in the Neonatal Intensive Care Unit at the Jim Pattison Children’s Hospital, Canada, between July 2019 to October 2020. Inclusion criteria were very preterm infants (gestational age less than 32 weeks) with low birth weight (less than 2500 grams) who had an echocardiogram and a bedside lung ultrasound assessment within their first two weeks of life.

The infants were divided into two groups based on their echocardiogram findings: infants with a non-HsPDA (no PDA or non-HsPDA) and infants with a HsPDA. Differences in clinical characteristics, echocardiogram findings, and lung ultrasound scores were evaluated.

A bedside lung ultrasound was done on the same day as the echocardiogram to assess for the presence of pulmonary edema. Lung ultrasound scoring was used to evaluate oxygenation needs.

Results: The echocardiographic and lung ultrasound scores of infants included in this study are summarized in Table 1. Six patients (6/20) did not have a PDA (2/6) or had a non-HsPDA (4/6) while 14 patients (14/20) had an HsPDA based on echocardiogram findings.

LUS score was significantly higher (10.6) in the HsPDA group compared to the non-HsPDA group (6.0), and these indices correlated with echocardiographic parameters.

Conclusion: This study demonstrates that LUS scoring can be used as a sonographic indicator of HsPDA. However, given significant limitations – further studies with a larger population size are required.

Abstract 1203 Table 1

<table>
<thead>
<tr>
<th>LUNG ULTRASOUND measure</th>
<th>Continous mean and SD</th>
<th>Median and QR</th>
<th>10th, 25th, 50th, 75th, 90th</th>
<th>Min, Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUS Score Non-HsPDA</td>
<td>Continous mean and SD</td>
<td>Median and QR</td>
<td>10.6 (8.3, 12.4)</td>
<td>4-14</td>
</tr>
<tr>
<td>LUS Score HsPDA</td>
<td>Continous mean and SD</td>
<td>Median and QR</td>
<td>6.0 (4.9, 8.8)</td>
<td>4-12</td>
</tr>
<tr>
<td>TOTAL Echocardiogram</td>
<td>Continous mean and SD</td>
<td>Median and QR</td>
<td>16.5 (13.5, 19.5)</td>
<td>6-24</td>
</tr>
<tr>
<td>TOTAL Lung Ultrasound</td>
<td>Continous mean and SD</td>
<td>Median and QR</td>
<td>16.5 (13.5, 19.5)</td>
<td>6-24</td>
</tr>
</tbody>
</table>

Abstract 1226 PARENTAL EXPERIENCE INTERVIEWS: PART OF A DIRECT NICU TO PCCU TRANSFER SERVICE IMPROVEMENT PROJECT

Shil Patel, Catarina Silvestre, Phoebe Kigozi. Nottingham University Hospitals NHS Trust 10.1136/archdischild-2022-rcpch.300

Aims: As part of a service improvement project, we aimed to ascertain parental experiences when transitioning between the Neonatal Intensive Care Unit (NICU) and the Paediatric Critical Care Unit (PCCU).

Methods: In this study, parents of infants hospitalised at the Nottingham University Hospitals (NUH) tertiary NICU and directly transferred to PCCU were enrolled.

Parents were invited for an interview by a family care team administrator who also plays a key role in the NICU parental support group.

Parents who agreed to an interview were then contacted at their convenience and verbally consented by Dr Shil Patel. The interviews were performed using a semi-structured format to establish the background summary of their case, information received about the transfer and opinions on some suggested interventions. Open questions were used to elicit their personal experiences.

The interviews were not recorded but indirect quotations were recorded with key themes noted.

Results: Four parent interviews were undertaken, representing 10% of NICU to PCCU transfers at NUH over the last 10 years. Two were ex-preterm current PCCU patients, with one awaiting a tracheostomy and one weaning tracheostomy ventilation. Two were children who had surgical airways and were two years post discharge.

6 key themes emerged including clarity/amount of information received, differences in care approaches, expectations around parental involvement and outcomes, pre-transfer tours, available support for parents and finally the perceptions around transfer. Figure 1.

Key quotes outlined in table 1.

Parents wanted more information, seeking information elsewhere, and felt that it was ‘empowering when more information is given’.

They noticed the ‘culture’ difference between the two units, even minor aspects like the number of bedside toys. They also struggled to understand why the approach to management was so different ‘when the child is the same’.

The expectation of the plan prior to transfer was also a key talking point, with all parents having the expectation of going to PCCU to wean respiratory support and go home.

Perception of the transfer was also key as many felt the day of transfer was rushed and due to ‘bed pressure’.

The parents who received tours before transfer greatly appreciated them. One stating that they still remember the doctor and nurse who conducted them.

Parents overall felt more supported on NICU. They found it difficult to relate to other parents on PCCU and got much of their support outside of the units, through social media and groups.

Abstracts