Aspiration pneumonia in association with oral vitamin K

Most infants born in the British Isles now receive vitamin K prophylaxis, and the trend towards oral administration continues.1 With the awareness that vitamin K is well absorbed from the gut2 and following publication of the report linking intramuscular vitamin K and childhood cancer,3 oral vitamin K prophylaxis has become more widespread. However, because of lack of uniform national policy, the practice of vitamin K administration varies from region to region. Cases of aspiration or anaphylaxis following oral vitamin K administration in neonates who were given under hospital supervision have not been previously reported.

We report three cases of aspiration associated with oral vitamin K, Orakay, the preparation currently used in Northeast England. Acute respiratory distress developed in previously well, breast fed neonates following administration of Orakay at home. All required hospital admission, and two of them had radiological evidence of aspiration.

Case 1: A 14 day old term boy was well until the second dose of Orakay by his father. He immediately developed a cough, tachypnoea, and grunting, cried incoherently, and refused feeds. On examination, she had features of respiratory distress. A septic screen was normal. A chest radiograph was normal. On discharge, she was given a fourth dose of Orakay under hospital supervision and remained well.

Case 2: A 14 day old girl was well until the community midwife gave a second dose of Orakay. The baby coughed straight afterwards and remained very unsettled. Within an hour, she was grunting, tachypnoeic, and refused feeds. On admission, she had features of respiratory distress. Oxygen saturation was 85% in air. A chest radiograph showed bilateral increased perihilar shadow. A septic screen was negative. She was discharged home on formula milk, and therefore did not need further Orakay.

Case 3: A 28 day old term girl was thriving and had tolerated two doses of Orakay well. When her father administered a third dose, she started to cough, became pale, unsettled, and tachypnoeic, and refused feeds. On examination, she had features of respiratory distress. A septic screen was normal. A chest radiograph was normal. After discharge, she was given a fourth dose of Orakay under hospital supervision and remained well.

Of note, even oral administration of vitamin K can occasionally be hazardous. This is of particular concern because Orakay is not licensed in the United Kingdom. There is an urgent need to develop a consensus policy and a product that is licensed, effective, easy to administer, and has minimal adverse effect.

References

Hypothesis waiting for proof: unwrapping neonates for transfer

During transfer from the delivery suite to the neonatal intensive care unit (NICU), infants are traditionally wrapped in pre-warmed towels. Whether this is optimal remains unknown. We compared the effects on core temperature of wrapping or not wrapping neonates during their transfer from the delivery suite to the NICU.

After resuscitation, infants in both groups were transferred to a Vickers 77-transport incubator and left wrapped or unwrapped. Rectal temperature was recorded using a mercury thermometer before leaving the delivery suite and again, immediately after transfer into a NICU incubator. The study was granted ethical approval.

Our findings are summarised in the table.

Table 1 Demographics of the two study groups and temperature difference

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<tr>
<th>Variable</th>
<th>Wrapped</th>
<th>Unwrapped</th>
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<tbody>
<tr>
<td>Number</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Male/female</td>
<td>5:5</td>
<td>3:7</td>
</tr>
<tr>
<td>Mean weight (kg)</td>
<td>1.635</td>
<td>1.595</td>
</tr>
<tr>
<td>Mean gestation</td>
<td>32/40</td>
<td>32/40</td>
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<td>Gestation range (days)</td>
<td>30/40–34/40</td>
<td>27/40–33/40</td>
</tr>
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<td>Transfer time (min)</td>
<td>4–10</td>
<td>5–10</td>
</tr>
<tr>
<td>Temperature difference</td>
<td>−0.34 °C</td>
<td>−0.21 °C</td>
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Wrapping infants in towels prevents convective heat gain. Additionally, leaving infants unwrapped allows essential clinical observation.

Despite the limitations of this small study, our findings challenge the practice of wrapping infants and warrant further examination in larger clinical studies.

References

Diuretics in CLD

This symposium on chronic lung disease of prematurity (CLD) by Kotecha et al. covered important aspects and controversies in the management of CLD. We accept the authors’ inability to cover all aspects of management. We feel that some space could have been devoted to diuretics in management of CLD. Nearly all patients with CLD of some stage of their disease will receive diuretics and most of them will be on them for a long time. We came across only one systematic review by Brion et al. in the Cochrane database. Conclusion of the authors was that there was no beneficial effect of using distal tubular diuretics for more than 4 weeks after initial stage. There was also no benefit in adding potassium sparing diuretics or newer diuretics like metalozone. Despite of very little evidence base for diuretics in CLD, one finds nearly all CLD patients on a diuretic cocktail. In addition to their effect on electrolytes, they affect Ca/P ratio. This may exacerbate osteopenia of prematurity and may have adverse effect on lung compliance. There is a need for more discussion or clear guidelines on this issue.

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Positioning long lines: response to Reece et al

Percutaneously inserted central venous lines are widely used in neonatal intensive care to administer parenteral nutrition and medications.1 It is important to ascertain the position of the line tip before use as incorrectly positioned long lines can lead to life threatening complications like cardiac tamponade and pulmonary oedema.2–4

Reece et al suggested that it is prudent to use a routine contrast radiograph to localise the line tip in newborn infants.1 We would like to comment on their suggestion and report a relevant study carried out on our neonatal unit.

Intravenous water soluble contrast is not commonly used in neonates and very little is known about its potential side effects in neonates.2 The Epicutaneo-Cava-Katheter (Vygon, UK) was inserted were included. In all cases an intravenous contrast radiograph of a long line was independently reviewed by an experienced junior doctor (IB) and a consultant neonatologist (CA).

This was due to delay between the injection of contrast and the radiographer exposing the film. This shows that fine coordination is required between the radiographer and the person injecting the contrast. Specific training may necessary.

We performed a retrospective study of the reliability of plain radiographs in identifying the site of the long line tip in our tertiary neonatal intensive care unit. Over a 10 month period all 27 babies who had long lines inserted were included. In all cases an Epicutaneo-Cava-Katheter (Vygon, UK) was inserted. This is the same catheter as that used by Reece and colleagues.1 Our placement aim was also similar to that in their study.3

The position of the line tip on the postinsertion X-ray was independently reviewed by an experienced junior doctor (IB) and a consultant neonatologist (SB). There was agreement between the two investigators in 25/27 (92.6%) cases. No complications due to line placements occurred. No complications due to line placements occurred.

We therefore feel that a plain radiograph is feasible in some busy neonatal units, especially out of hours.

References

sodium deprivation, to improve somatic stability, and to avoid untoward clinical consequences. E Sulyok

Professor and Chairman, County Children’s Hospital, Institute of Health Promotion and Family Care, Faculty of Health Sciences, University of Pecs, H-7624 Pecs, PO Box 76, Hungary

References


Author’s reply

Methinks Professor Sulyok doth protest too much. His early, pioneering work on electrolyte balance in the newborn is well known, and extensively cited in an earlier review of the subject co-authored by myself. In this, inter alia, his study of the effect of salt supplementation on the renin-angiotensin-aldosterone system is quoted in support of the hypothesis that hyponatraemia in premature infants is due to salt depletion rather than water retention. The reason these papers were not cited in the present paper is that they are not relevant to it. The paper is not a historical or general review of hyponatraemia in the newborn but the results of a study specifically designed to examine neurodevelopmental outcome in two particular groups of infants previously studied by ourselves. His recent study of hyponatraemia and sensorineural deafness in preterm infants had not been published when our paper was submitted to the Archives, although we would certainly have referred to it if it had been.

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References


CORRECTION

We would like to apologise for an error that occurred in the paper ‘Oxygen therapy for infants with chronic lung disease by S Kotecha and J Allen’ (Arch Dis Child Fetal Neonatal Ed 2002;87:F11–F14). The following sentence, under the heading Weaning from home oxygen, should have read: Vermeulen et al showed that infants who could be weaned from oxygen had awake median saturations of 97% during one hour awake studies, spent only 14% of time with saturation ≤ 95% and 2% of time ≤ 92%.
Effect of head up tilting on oxygenation

HD Delligrammaticas

Arch Dis Child Fetal Neonatal Ed 2002 87: F233
doi: 10.1136/fn.87.3.F233-b

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