Methods Under simulated conditions we investigated two single-light phototherapy setups - using Draeger PT4000®, and Natus NeoBlue Mini® lights - and one double-light phototherapy setup using both units.

Irradiance was measured using a Respiroics Joey Dosimeter® at predetermined body locations on a mannequin with and without reflectors.

We tested two reflective materials - a gloss-white cover, and a Mylar® silver foil cover.

Results We detected an increase in cumulative mean irradiance with the addition of reflective covers in two setups.

In the Draeger setup, irradiance increased by 22% when using either a white or Mylar cover over no cover [14.5 to 17.8 uW/cm2/nm (white cover) (p=0.037)] [14.5 to 17.9 uW/cm2/nm (Mylar cover) (p=0.036)]. The addition of a second phototherapy unit (Natus) without reflectors increased irradiance by 43% [14.5 to 20.8 uW/cm2/nm (p=0.001)].

In the double-light setup, irradiance rose by 17.8% compared to no cover [20.8 to 24.3 uW/cm2/nm (white) (p=0.003)] [20.8 to 24.5 uW/cm2/nm (Mylar) (p=0.002)].

In the Natus setup, reflective covers produced a small, non-significant increase in irradiance compared to no cover [6.5 to 7.0 uW/cm2/nm (white)] [6.5 to 7.1 uW/cm2/nm (Mylar)].

We detected no difference in irradiance between Mylar and white covers in any set up.

Conclusion The addition of reflective covers can optimise neonatal phototherapy. Our study suggests that total body irradiance can be improved in both single- and double-light phototherapy setups. Clinical trials would be useful in further exploring the role of reflective materials in phototherapy.

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GP259 FRESH OR FROZEN: WHAT IS THE DIFFERENCE?

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Background Maternal expressed breast milk is the feed of choice for the preterm infant who is unable to latch to feed. Most mothers express and store milk in the fridge or freezer for later use. Irish Breast feeding guidelines recommends storage of fridge freezer for 3 months and deep freezer for 6 months.¹ Some reports suggest no change in macronutrient content after freezing up to 3 months while others report a decrease in fat and caloric content of breast milk.²

Aim To compare the difference in macronutrient content between paired fresh and frozen maternal expressed breast milk samples.

Methods A total of 20 pooled expressed breast milk samples were collected from 15 mothers, expressing for their preterm infants with mean gestation at birth = 28.3 weeks. Mean infants birth weight was 1143 (±364) grams. As per local

hospital policy samples were frozen at -25°C within 24 hours of expression. Breast milk samples were analysed by human milk analyser (MIRIS®) after ultrasonic homogenization after thawing in room-air and warming to 40°C.

Results Median time of freezing was 33 (7–70) days. Macro-nutrient composition varied (as shown in table 2), with fat and caloric content most effected. Some loss of protein content was observed.

Abstract GP259 Table 1 Maternal and infants demographic details

Participant mothers of infants	n=15
Mean age(SD) years	36.2 (4.7)
mean infants gestation at birth (SD) weeks	28.3 (2.65)
mean birth weight of infant (SD) grams	1143(364)

Abstract GP259 Table 2 Macronutrients and caloric contents/ 100mls of expressed breast milk

Median (ran ge)	day 0 value	frozen value	difference
Fat g/100mls	3.85 (2.6–7)	3.45(2.4–6.2)	0.35 g
Protein g/100mls	1 (0.8–1.5)	1(0.8–1.45)	0.05 g
carbohydrate g/100mls	7.55 (7–8)	7.45 (7–7.8)	0.11 g (0–0.45)
energy kcal/100mls	70(61–101)	67 (61–89)	3.3 kcal (1–12)

Discussion Our study shows a decrease in fat and energy content of maternal expressed breast when frozen. This should be taken into consideration when using frozen expressed breast milk for preterm infants and fresh breast milk used where feasible.

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GP260 INDICATION OF LUMBAR PUNCTURE IN WELL LOOKING NEONATES – NATIONAL BASED SURVEY

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Background The incidence of early onset neonatal bacterial meningitis (EONM) was estimated to be approximately 0.3 per 1000 live births. Sign of EONM in term infants typically present by first 6 hrs and the majority presents within the first 24hr of life. Diagnostic investigations varies widely. However rationale to do lumbar puncture in well looking neonates with raised CRP varies widely

Aims and methods To perform a national survey via questionnaire to all paediatric consultant & neonatologist in Republic of Ireland. Questionnaire consists of questions regarding indication of lumbar puncture in well looking neonates with raised CRP and what level of CRP is indicative for Lumbar puncture.

Result 97 questionnaires were sent. Response rate was 50%. 54% were from general Paediatric consultants, 30% from Neonatologist, 4% from Neurologist and 12% were unmentioned.

56% will do lumbar puncture (LP) in well looking child with CRP >20. 35% will make decision of LP with clinical assessment of the neonates alone. In case of Clinical condition and elevated CRP, 33% will always do LP as compared to 50% who sometimes do LP and look for other blood markers. In case of positive blood culture and $\pm$ positive blood PCR 56% will do the LP in stable neonates. According to survey 75% of the LP decisions were made by clinicians without considering any international guidelines.

Conclusion The decision to perform a lumbar puncture in neonate with suspected EONM remains unclear. In the high risk & healthy appearing babies, the data suggest that likelihood of meningitis is extremely low. Most clinicians employ CRP as a complementary indicator to clinical decision rather than sole determinant of lumbar puncture in otherwise well babies. However many clinicians do use it sometimes to gear the decision. Absolute solution can only be yielded after outcome of lumbar puncture justifies the role of CRP. Guidelines through national consensus & neonatal clinical advisory group are recommended.

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GP261 NEONATAL BLOOD CULTURES: IS 36 THE 'MAGIC' NUMBER?

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Aims Early-onset neonatal bacterial infection is a significant cause of mortality and morbidity in neonates (1). Many septic work-ups are done on babies where there is a suspicion for sepsis or known risk factors for sepsis. These babies receive empirical antibiotic therapy for 48 hours in some centres.

Our aim was to determine if it is safe to stop antibiotics at 36 hours if blood cultures are negative.

Methods This was a 10 year retrospective review of positive neonatal blood culture in Our Lady of Lourdes Hospital Drogheda (OLOL) from 01/01/2007–31/08/2017. We identified the time blood cultures became positive and determined how many blood cultures that were negative at 36 hours that later became positive.

Results During the time period between 01/01/2007–31/08/2017, 206 blood cultures were positive. Twenty-eight out of 206 (14%) became positive after 36 hours.

The number of positive blood cultures in the Neonatal Intensive Care Unit has changed dramatically over time. There were 37 positive blood cultures in 2007 as compared to 11 positive blood cultures in 2015 and 2016. This is a 70% reduction in positive cultures in the unit. It is likely due to improved aseptic technique in the unit.

Conclusion Over a ten year period, we showed that 86% of blood cultures were positive within 36 hours. This has improved further to 95% positive at 36 hours over the past 4

years. These results show that discontinuing antibiotics at 36 hours is safe if the blood culture is negative and the baby is well.

There is a potentially huge financial saving if we can stop antibiotics at 36 hours and discharge the mother and baby. For OLOL this saving was estimated at approximately € 343,400/year based on an extra night's stay. This is equivalent to approximately 12 additional nursing/midwifery staff per year in OLOL.

GP262 SUBCUTANEOUS FAT NECROSIS OF THE NEWBORN: A CASE REPORT AND LITERATURE REVIEW

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Introduction Subcutaneous fat necrosis of the newborn (SFNN) is an uncommon but important complication of perinatal care. While most cases resolve spontaneously, complications can include hypercalcaemia (up to 70%), thrombocytopaenia and hypertriglyceridaemia.

We report a case of SFNN and a literature review of published cases.

Case A term infant was treated with therapeutic hypothermia for grade 2–3 hypoxic ischaemic encephalopathy.

On day 20 she was noted to have large plaques consistent with SFNN. At 4 weeks she developed hypercalcaemia requiring admission for intravenous fluids and furosemide. Her calcium normalised after 48 hours, and she commenced a low calcium diet. Parathyroid hormone and vitamin D were suppressed. She remains on low calcium formula at 7 months of age.

Literature review

Methods Pubmed was searched for English language articles using the keywords 'fat necrosis' AND 'neonate or newborn'. 214 articles were screened, of these, 102 articles were included for review.

Results Of 102 articles reviewed, 93% were case reports/case series, 4% were cohort studies and 3% were review articles.

Comprehensive information was available for 119 individual case reports of SFNN. There was no gender predilection. Perinatal asphyxia or stress was reported in 78% (93/119). Delivery information was provided in 116/119 cases. Of these, 44% (51/116) were delivered by emergency caesarean section, and 11% (13/116) had an instrumental delivery. 21% (25/119) had hypoglycaemia. 20% (24/119) underwent therapeutic hypothermia. Median onset of skin lesions was day of life 6 (range: 1–70). Median duration of skin lesions was 62 days (range: 14–390).

Hypercalcaemia developed in 53% (60/113). Median day of onset of hypercalcaemia was day 28 (range: 1–210). Median duration of hypercalcaemia was 26 days (range: 4–240). 52% (31/60) of hypercalcaemia was asymptomatic. Of those with hypercalcaemia, nephrocalcinosis was reported in 27% (16/60), subcutaneous calcification in 7% (4/60), and visceral calcinosis in 5% (3/60). Hypertriglyceridaemia was reported in 7% (8/119). Thrombocytopaenia was reported in 18% (21/119).

Information regarding treatment was provided in 109/119 cases. 47% (51/109) were managed conservatively. Hyperhydration was required in 30% (33/109), dietary restriction of