with ATGA and LI with LTGA ($X^2=652,39$ $p<0,001$). Hypoglycemia (3.5%) was associated both with SI and LI ($X^2=9,15$ $p<0,01$) and with o PTGA, SPTGA and LTGA ($X^2=11,99$ $p<0,007$). The Respiratory Distress Syndrome (0.5%) was associated with SI ($X^2=43,35$ $p<0,0001$) and PTGA ($X^2=55,70$ $p<0,0001$). No association was found between jaundice (15.2%) or Sepsis (0.7%) and any of the extracts.

Conclusion: The weight/length index may represent a key contribution to the NB risk classification with sensitivity similar to that of the weight/gestational age adequacy, for the affections studied.

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OUTCOME OF PRETERM INFANTS WITH NECROTISING ENTEROCOLITIS OR SPONTANEOUS INTESTINAL PERFORATION REQUIRING LAPAROTOMY FROM A LEVEL III NICU

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Background: The NICU at Monash Newborn is part of an integrated perinatal centre, where infants requiring surgery can be treated in-house. Emergency surgery is often performed within our NICU. Preterm infants who require laparotomy for either spontaneous intestinal perforations (SIP) or perforated necrotising enterocolitis (pNEC) represent a group of infants with very high mortality (ranging from 20 to 50%). The aim is to study the outcome of these infants from our centre over a 5-year period.

Method: Preterm infants (2004 to mid-2009) < 32 weeks gestation who had diagnoses of either SIP or pNEC were identified from our NICU database. X-Ray images and reports were re-assessed. A proforma was used to extract data for these infants.

Results: In total 21 infants were identified. Eleven infants had SIP while 10 had pNEC. The average age ($\pm$ SD) for surgery was 6.9 ($\pm$ 5.9) days for SIP and 33.1 ($\pm$ 19.6) days for pNEC (t-test; $p=0.002$) with overall age of 19.2 ($\pm$ 19.3) days. Overall mortality rate was 23.8% (18.2% for SIP and 30% for pNEC). Median (IQR) length of stay (LOS) for all survivors was 109 (64 to 199) days, while SIP infants' LOS was 70 (38 to 199) days and pNEC infants' LOS

was 143 (123 to 183) days. Three infants from the SIP group had grade III/IV IVH in SIP while 1 infant with pNEC had PVL.

Conclusions: The mortality rate from our centre is comparable to published outcomes. SIP presented with perforation at a significantly earlier age compared to pNEC.

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GESTATION, NOT RATE OF GROWTH IN VERY PRETERM BABIES, DETERMINES THE RISK OF RETINOPATHY OF PREMATURITY (ROP)

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Background: Poor post-natal weight gain in preterm babies has been identified as predicting severe ROP. Monitoring it to select babies at risk could reduce ophthalmological examinations.

Aim: To review the relationship between post-natal weight gain and ROP.

Methods: A review of 263 consecutive babies < 32 weeks and/ or < 1500g in 2008-9. Growth was measured as time to regain birthweight and weight gain in g/kg/day between days 21 and 42. ROP screening and grading was in line with UK national guidance.

Results: Forty babies died. 54 were discharged before day 42: none developed severe ROP. 169 survivors had full data.

Overall 9(4.2%) of survivors needed treatment.

Stage of ROP	Number	Gestation (wks) Mean (SD)	Birth weight (g)	Days to regain birth weight	Weight gain days 21- 42 (g/Kg/day)
0	103	29.3 (2.1)	1188 (288)	14.0 (5.5)	15.1(4.5)
1	31	27.5 (2.1)	952 (280)	12.8 (4.3)	12.9(4.9)
2	21	27.6 (2.4)	1046 (236)	15.2 (5.9)	12.6(5.6)
3	13	26.8 (2.2)	875 (272)	13.4 (5.8)	11.7(7.5)
Aggressive posterior	1	24.4	550		13.1

[Findings]

Univariate analysis showed that gestation ($p < 0.001$), birthweight ($p < 0.001$) and rate of weight gain ($p = 0.001$) inversely correlated with grade of ROP, but with multiple regression only gestation remained significant ($p < 0.001$). Rate of weight gain correlated with gestation; this may explain findings in previous studies.

Conclusions: Screening only babies with a growth rate below the 1st quartile would have missed 54% babies with grade 3 ROP.

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NEUROCOGNITIVE OUTCOME OF BIRTH AT 23 WEEKS GESTATION

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Background and Aims: Birth at 23 weeks gestation is at the threshold of viability and associated with high mortality and morbidity rates. Survivors are predicted to have moderate-to-severe neurodevelopmental impairments but these have not been well-described. Our aim was to describe cognitive and behavioral outcomes at early school age in these at-risk children.

Methods: We assessed 5 males at age 6 who were born at our hospital 2000-2003 at 23 weeks (birth weights: 482-660 g). Standardized neuropsychological and parental report measures were administered, and scores corrected for prematurity.

Results: Survival-to-discharge rate was 56% for 23 weekers born 2000-2003 at our NICU. Compared to normative data, our participants' mean Differential Ability Scales-II General Conceptual Ability was 89 ± 7.59 (range 81-100); composite scores were Verbal= 94.8 ± 12.36 , Nonverbal Reasoning= 92.0 ± 8.12 , but Spatial= 85.4 ± 10.88 . None required special education. Parental behavioral ratings indicated three were intact for internalizing problems, externalizing problems, behavioral symptoms, and adaptive skills; two at-risk for externalizing problems, one also for behavioral symptoms and one with significantly poor adaptive skills.

Conclusions: Although resuscitation of extremely early gestation neonates is not universally endorsed, low average (80-89)/average (90-109) functioning can be expected for some born at 23 weeks; severe impairment is not certain. Resuscitation decisions are difficult without knowledge of the best predictors of adequate functional outcome. Risk of spatial dysfunction, hyperactivity, attention problems, and ineffective activities of daily living may be greater in this select population, requiring early interventional therapies in preparation for school entry. Further study of these fragile survivors is warranted.

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FACTORS WITH IMPACT ON THE INCIDENCE OF LARGE FOR GESTATIONAL AGE BIRTHS

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Background: Large for gestational age (LGA) newborns associate both significant neonatal morbidity and potential threat for the mother. To date, it is difficult to accurately predict neonatal macrosomia clinically.

Objective: To examine the risk factors associated with LGA newborns in a geographically defined population.

Methods: Retrospective cohort study (N=14831) of singleton live births (2004-2008) using maternal and newborn data from a Regional tertiary unit. The variables selected for inclusion in this study were based on a review of published medical research and included infant characteristics (gender, gestational age), genetic or constitutional factors (maternal prepregnancy weight, maternal height), lifestyle factors during pregnancy (smoking, alcohol), preexisting medical diseases (diabetes mellitus), obstetrical history (parity, gravidity), medical problems during current pregnancy. Multivariable regression statistics were used to determine the significance of each variable.

Results: LGA newborns represented 4.48% (N=665) of the studied population, whereas adverse neonatal outcomes (i.e. shoulder dystocia, brachial nerve injuries, clavicular fractures, and neonatal hypoglycemia) were reported in 9% of LGA newborns. After adjusting for potential confounders, the main predictors LGA births were a previous history of an LGA delivery (i.e. associated with a 3-fold increase in the likelihood of delivering a