

Table 1: Baseline characteristics, nutrition, and clinical outcomes of neonates at risk for Metabolic Bone Disease (MBD)				
	Low MBD (n= 62)	Moderate MBD (n=71)	Severe MBD (n= 28)	P-value
Baseline characteristics				
Birth gestational age, wks	25.4 (24.6, 26.4)	25.7 (24.6, 26.6)	24.2 (23.3, 25.5) [†]	0.002
Birth weight, g	775.0 (660.0, 925.0)	700.0 (590.0, 910.0) [†]	625.0 (530.0, 710.0) [†]	<0.001
Z-score for weight	0.3 (-0.4, 1.0)	-0.2 (-1.3, 0.8) [†]	-0.2 (-0.7, 0.7) [*]	0.085
Birth length, cm	32.0 (31.0, 34.0)	31.0 (29.5, 33.3) [*]	30.1 (28.2, 31.5) [†]	0.004
Z-score for length	0.0 (-0.8, 0.4)	-0.5 (-1.7, 0.3) [*]	-0.5 (-1.2, -0.1) [†]	0.082
Birth Head circumference (HC) **, cm	22.5 (21.5, 24.0)	22.4 (21.0, 24.0)	21.5 (20.3, 22.5) [†]	0.010
Z-score for HC **	-0.3 (-0.9, 0.5)	-0.3 (-1.5, 0.5)	-0.4 (-0.8, 0.3)	0.491
Small for gestational age	9 (14.5)	19 (26.8) [†]	5 (17.9)	0.203
Enteral Nutrition				
Days NPO in first 28 days, median (IQR)	3 (1, 7)	2 (1, 8)	6 (1, 16)	0.065
Feeds started days after birth, median (IQR)	2 (2,3)	2 (2, 3)	2 (2, 4)	0.946
Fortification days after birth, median (IQR)**	12 (9, 19)	13 (10,21)	23 (12.5, 45.5) [†]	<0.001
Days of TPN in the first 28 days, median (IQR)	16 (9, 21)	16 (10, 22)	24 (16, 27) [†]	0.005
Initiation vitamin D supplementation, median (IQR)**	16 (12, 29)	18.5 (14, 27)	31 (16, 53) [†]	0.004
Clinical outcomes				
Growth				
Z-score for weight at DOL 28	-0.8 (-1.2, -0.5)	-1.2 (-1.6, -0.5)	-1.0 (-1.5, -0.6)	0.28
Z-score for weight, difference from birth at 1m	-1.1 (-1.6, -0.7)	-0.8 (-1.4, -0.3) [*]	-0.8 (-1.5, -0.3)	0.03
Z-score for length at DOL 28	-1.4 (-2.0, -0.6)	-1.7 (-2.7, -0.9)	-1.8 (-2.4, -1.0)	0.06
Z-score for length, difference from birth at 1m	-1.3 (-1.7, -0.5)	-1.1 (-1.7, -0.5)	-1.3 (-1.8, -0.6)	0.82
Z-score for HC at DOL 28	-1.9 (-2.6, -1.3)	-2.3 (-3.0, -1.1)	-2.1 (-2.8, -1.3)	0.76
Z-score for HC, difference from birth at 1m	-1.7 (-2.3, -1.1)	-1.7 (-2.1, -1.0)	-1.8 (-2.0, -0.8)	0.89
Z-score for weight at 36 wk CGA or DC	-1.4 (-1.9, -1.0)	-1.6 (-2.4, -0.8)	-1.7 (-2.1, -1.1)	0.27
Z-score for weight, difference from birth at 36wk	-1.7 (-2.1, -1.0)	-1.4 (-1.9, -0.9)	-1.6 (-1.8, -1.1)	0.26
Z-score for length at 36 wk CGA or DC	-2.0 (-2.5, -1.4)	-2.3 (-3.1, -1.4)	-2.5 (-3.3, -1.8)	0.18
Z-score for length, difference from birth at 36wk	-1.8 (-2.6, -1.2)	-1.6 (-2.2, -0.8)	-1.9 (-2.7, -1.2)	0.35
Z-score for HC at 36 wk CGA or DC	-1.8 (-2.5, -1.2)	-1.9 (-3.0, -1.2)	-2.5 (-2.8, -2.1) [*]	0.03
Z-score for HC, difference from birth at 36wk	-1.6 (-2.2, -0.9)	-1.5 (-2.1, -1.0)	-2.2 (-2.8, -1.2)	0.14
Bone Imaging				
Fractures by radiology	2 (3.2)	6 (8.5)	1 (3.6)	0.532
Osteopenia by radiology	1 (1.7)	4 (5.6)	8 (28.6) [†]	<0.001
Respiratory				
Assisted Ventilation (days)**	34 (13, 45)	29 (10, 44)	47.5 (31.5, 63) [*]	0.01
Resp. Support at 36 weeks Postmenstrual age				
Oxygen **	52 (85.3)	44 (63.8) [*]	24 (88.9)	0.004
Conventional ventilation **	4 (6.5)	4 (5.8)	4 (14.8)	0.319
High frequency ventilation **	2 (3.2)	0 (0.0)	0 (0.0)	0.466
Nasal cannula**	35 (56.5)	34 (49.3)	13 (50.0)	0.69
High flow nasal cannula > 2L**	9 (14.8)	8 (12.7)	2 (8.0)	0.70
Continuous positive airway pressure (CPAP) **	18 (29.0)	10 (14.5)	9 (33.3)	0.06
Resp Support (discharge)				
Oxygen **	28 (45.9)	27 (38.0)	20 (71.4) [*]	0.01
Conventional Vent **	5 (8.2)	5 (7.0)	1 (3.6)	0.85
Other				
NEC/SIP requiring surgery	1 (1.6)	4 (5.6)	3 (10.7)	0.15
Sepsis within 28 days after birth	11 (17.7)	13 (18.3)	8 (28.6)	0.45
Intraventricular hemorrhage highest grade				0.37
1 - 2	10 (16.1)	12 (16.9)	7 (25.0)	
3 - 4	8 (12.9)	5 (7.0)	5 (17.9)	
Cystic Periventricular Leukomalacia	7 (11.2)	4 (5.6)	3 (10.7)	0.470
Persistent Ductus Arteriosus	35 (56.5)	30 (42.3)	18 (64.3)	0.087
Retinopathy of prematurity stage ≥2	23 (37.1)	18 (25.6)	18 (64.3) [*]	0.001
Length of stay, day** median (IQR)	113 (95.0, 133.0)	103 (85.0, 130.0)	127.5 (109.0, 160.0)	0.028
Data presented as n (%).** Number may not be added due to missing data. * P-value comparing with no MBD as the reference group is <0.05. † P-value comparing with no MBD as the reference group is <0.01. IQR= Interquartile range. MBD=Metabolic Bone disease, NEC= Necrotizing enterocolitis, SIP=Spontaneous Intestinal Perforation.				