

Table 1. Baseline characters

	Total	Patients(74)	Healthy neonates(236)	P
GA, wk, mean (SD)	39.1(1.5)	38.7(1.8)	39.3(1.3)	<0.01
BW, g, mean (SD)	3324(441)	3230(483)	3354(423)	0.16
SGA neonates,	25(8.1)	7(9.5%)	18(7.6%)	0.39
5'Apgar score, median (interquartile range)	9(9-9)	9(9-9)	9(9-9)	1
Male sex, n (%)	154(49.7)	39(52.7)	115(48.7)	0.32
Antenatal steroids, any dose, n (%)	16(5.2)	11(14.9)	4(2.1)	<0.01
Antenatal steroids, full course, n (%)	8(2.6)	3(4.1)	4(2.1)	0.29
Cesarean delivery, n (%)	117(37)	36(48.6)	81(34.3)	0.02
Respiratory Rate, median (interquartile range)	61(16)	65(7)	57(19)	<0.01
Infants whose TcSO ₂ below 95% ^a	41(13.2)	23(31.1)	18(7.6)	<0.01
Scanning timing, Mode(hours after birth)	2	2	2	0.36
LUS high risk patterns, median (interquartile range)	1(3)	5(3)	1(2)	<0.01

a: TcSO₂ recorded as an average value of three consecutive minutes, before LUS performed and when neonates remain calm, and by the physician who is specialized in monitoring neonates and perform lung ultrasound.

GA: Gestational age;

BW: Birth weight;

SGA: Small for gestational age;

LUS: Lung ultrasound;

SD: Standard deviation;

Table2: Reliability of LUS to Be Used to Predict respiratory support

	Cutoff Value*	Patients: Healthy infants	Sensitivity, % (95% CI)	Specificity, % (95% CI)	+LR, % (95% CI)	-LR, % (95% CI)
High-Risk patterns to Any of Resp support	>2	74:236	87.10 (70.2 - 96.4)	88.02 (82.6 - 92.3)	7.27 (4.8 - 10.9)	0.15 (0.06 - 0.4)
Low-Risk patterns to Any of Resp support	<7	74:236	82.09 (70.8 - 90.4)	82.72 (77.4 - 87.3)	4.75 (3.5 - 6.4)	0.22 (0.1 - 0.4)
High-Risk patterns to Hood O ₂ support need	>2	62:248	87.10 (76.1 - 94.3)	87.35 (82.5 - 91.2)	6.88 (4.9 - 9.7)	0.15 (0.08 - 0.3)
Respiratory rate to total Resp support #	>2	74:236	79.41 (67.9 - 88.3)	55.93 (49.3 - 62.4)	1.80 (1.5 - 2.2)	0.37 (0.2 - 0.6)

When using LUS to predict respiratory support needt, the cutoff values associated with sensitivity and specificity >80% are shown.

When using Respiratory rate to predict respiratory support need, the cutoff values associated with optimal sensitivity and specificity are shown(whose corresponding Youden index is maxium) .

LUS: Lung ultrasound;

Resp support: Respiratory support, which means infants need any of support including: hood oxygen, continuous postive airway pressure(CPAP), mechanical ventilation(MV) or pulmonary surfactant(PS).

CI: confidence interval;

+LR: positive likelihood ratio;

+LR: negative predictive value;

*: Cutoff value was caculated based on number of scanning regions(of total 12 scanning regions) which contains High-risk image patterns or Low-risk image patterns.

#: Respiratory rate was grade as 1(less than 40 times/min), 2(between 40 to 60 times/min), 3(more than 60 times/min).

