Congenital Diaphragmatic Hernia: An Audit on Surgical Outcomes over 5 years (2017 to 2022) in a Single Tertiary Hospital in Malaysia

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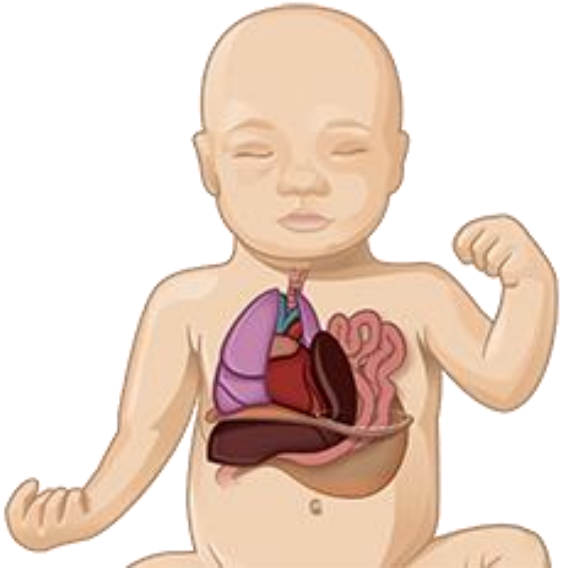
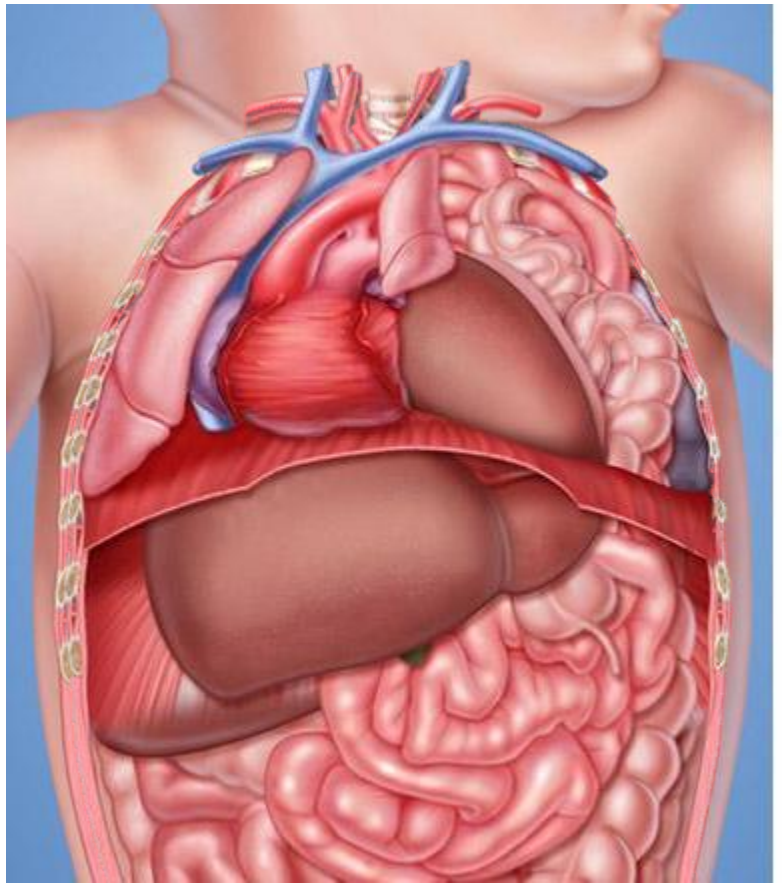


Introduction

- Congenital diaphragmatic hernia - about 1 per 2,000 – 4,000 live births associated with high mortality

- Malaysian data – 2008 – UKM study done in 21 patients looking at overall early outcomes of CDH infants.

- Remains a paucity in data in Malaysia



Objectives

- To audit survival rate of CDH repair

- To look at factors that contributes to survival in patients with CDH in our local setting

Study Method

- Retrospective study
- Data collected from 2017 to 2022 from hospital records in HSAJB in collaboration with HSAJB Paediatric team

Inclusion:
- Infants with diagnosed Congenital Diaphragmatic Hernia prenatally and postnatally
- Infants <30 days old

(n=30)

Demographics

(n=30)

53.3% (n=16)

46.7% (n=14)

	Total n=30
Race	
Malay	20 (66.7%)
Chinese	4 (13.3%)
Indian	4 (13.3%)
Others	2 (6.7%)

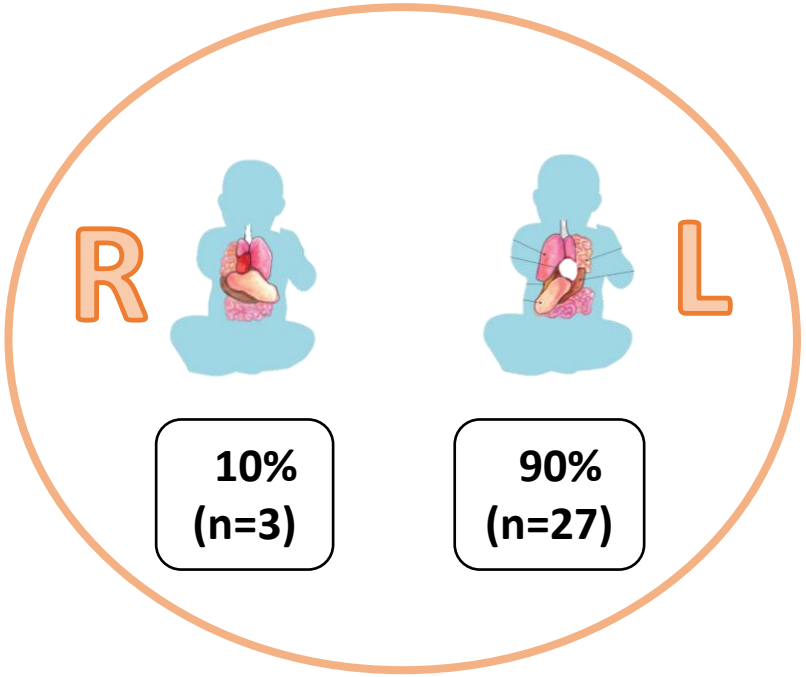
Demographics

Birth weight

Mean: 2.79 kg
1.57 to 3.8 kg

Gestational Age

Mean: 38 weeks
(36 to 41 weeks)



	Total n=30
Birth weight	
<2.5 kg	5 (16.7%)
≥2.5kg	25 (83.3%)

	Total n=30
Gestational age	
Preterm	7 (23.3%)
Term	23 (76.7%)

Demographic

	n=30
HSAJB	24 (80.0%)
DISTRICT HOSP	4 (13.3%)
PRIVATE HOSP	2 (6.7%)
SVD	13 (43.3%)
LSCS	17 (56.7%)
Diagnosed antenatally	
YES	7 (23.3%)
NO	20 (66.7%)
Associated Anomalies	2 (6.7%)

Edward's syndrome

Leaking myelomeningocele

Demographics

n=30

Age at surgery

Mean: 4.65 days
2 to 10 days

Outcomes

	Alive (n=23)	Dead (n=7)	P Value
Gender			
Female	8 (34.8)	6 (85.7)	0.018
Side of defect			
Left	21 (91.3)	6 (85.7)	0.666
Right	2 (8.7)	1 (14.3)	
PPHN	8 (34.8)	6 (85.7)	0.018 (<0.05)
HFOV	8 (34.8)	6 (85.7)	0.018 (<0.05)
iNO	1 (4.3)	1 (14.3)	0.356

	Alive (n=23)	Dead (n=1)	P value
Gestation			0.111
Term	17 (73.9%)	0 (0.0)	
Preterm	6 (26.1%)	1 (100.0)	
Birth weight			0.022
<2.5kg	3 (13.0)	1 (100.0)	
≥2.5kg	20 (87.0)	0 (0.0)	
PPHN	8 (34.8)	1 (100.0)	0.187
HFOV	8 (34.8)	1 (100.0)	
Site			0.758
Left	21 (91.3%)	1 (100.0)	
Right	2 (8.7%)	0 (0.0)	
Antenatally diagnosed			0.105
Yes	5 (25.0%)	1 (100.0)	
No	15 (75.0%)	0 (0.0)	

HSAJB (n=24)

95.8% (n=23)

UKM (n=12)

92.7% (n=11)

UK AND IRELAND COHORT (n=182)

98% (n=178)

1. Rohana, J., Boo, N. Y., & Thambidorai, C. R. (2008). Early outcome of congenital diaphragmatic hernia in a Malaysian tertiary centre. *Singapore medical journal*, *49*(2), 142–144.

2. Long, A.-M., Bunch, K. J., Knight, M., Kurinczuk, J. J., & Losty, P. D. (2018). Early population-based outcomes of infants born with congenital diaphragmatic hernia. *Archives of Disease in Childhood - Fetal and Neonatal Edition*, *103*(6). https://doi.org/10.1136/archdischild-2017-313933

Discussion

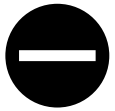
	HSAJB	HUKM[1]	UK and Ireland Cohort [2]
Duration of study (years)	5	6	2
Number of patients (n)	30	21	219
Number of patients that underwent surgery	24	12	182
Survived post surgery	23 (95.8%)	11 (92.7%)	178 (98%)
Birth weight ≥2.5kg(those operated on)	20 (87%) p = 0.022	-	158 (88%) p = 0.160
No of female in non survival group	6 (87.5%) p = 0.018	2 (20%) p = 0.6	22 (63%) p = 0.002

1. Rohana, J., Boo, N. Y., & Thambidorai, C. R. (2008). Early outcome of congenital diaphragmatic hernia in a Malaysian tertiary centre. *Singapore medical journal*, *49*(2), 142–144.
2. Long, A.-M., Bunch, K. J., Knight, M., Kurinczuk, J. J., & Losty, P. D. (2018). Early population-based outcomes of infants born with congenital diaphragmatic hernia. *Archives of Disease in Childhood - Fetal and Neonatal Edition*, *103*(6). https://doi.org/10.1136/archdischild-2017-313933

Strength, Limitations and Future Considerations

Strengths

- Local population study
- High volume referral centre



Limitations

- Single centre study
- Retrospective study

Improvement and consideration

- Multicenter study
- Follow up data, to see late surgical outcomes

Conclusion

- CDH repair in our study has good survival rate
- In those operated, birth weight affects
- A national audit will help identify factors associated with mortality in our local setting.

THANK YOU