### A RETROSPECTIVE REVIEW OF LAPAROSCOPIC-ASSISTED TRANSANAL PULL-THROUGH FOR THE SURGICAL MANAGEMENT OF HIRSCHSPRUNG DISEASE IN HOSPITAL SULTANAH BAHIYAH BETWEEN 2014 AND 2018

Shung Ken Tan<sup>1,2</sup>, Chee Wei Tan<sup>1</sup>, Junaidah Hassan<sup>1</sup>, Muniswaran Nadesin<sup>2</sup>, Yew Chai Leiw<sup>1</sup>, Nur Akmal Ismail Muslim<sup>1</sup>, Joo Qing Cheng<sup>1</sup>, Nik Fatimah Salwati Nik Malek<sup>3</sup>, Wan Anna Md Amin<sup>4</sup>, Tammy Teoh Han Qi<sup>2</sup>, Nada Sudhakaran<sup>5</sup>, Mohan Arunasalam Nallusamy<sup>1</sup>

<sup>1</sup> Paediatric Surgery Unit, Department of Surgery, Hospital Sultanah Bahiyah, Alor Setar.

<sup>2</sup> Paediatric Surgery Unit, Department of Surgery, Hospital Pulau Pinang, Pulau Pinang.

<sup>3</sup> Department of Radiology, Hospital Sultanah Bahiyah, Alor Setar.

<sup>4</sup> Department of Pathology, Hospital Sultanah Bahiyah, Alor Setar.

<sup>5</sup> Pantai Hospital, Kuala Lumpur.

### Objectives:

 To analyze patient demographics and post-operative outcomes (immediate and early)

### Inclusion criteria:

All patients who underwent LATAP in HSB from 2014-2018.

### **Exclusion criteria:**

Patients who underwent conversion to open surgery

### Sampling method:

- Universal sampling.
- Total cases N=65

### Data collection:

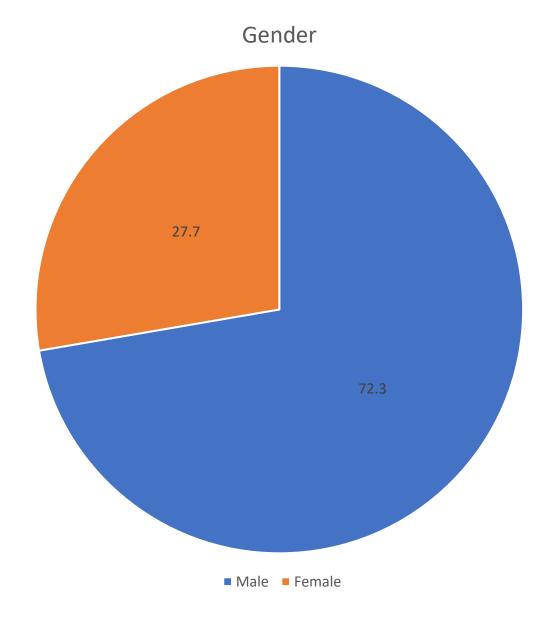
- Operation registry
- E-Hospital Information System

### Data analysis:

- IBM SPSS Version 20
- Demographics, outcomes descriptive statistics

### DEMOGRAPHICS

GENDER (N=65)		
male	47 (72.3%)	
female	18 (27.7%)	

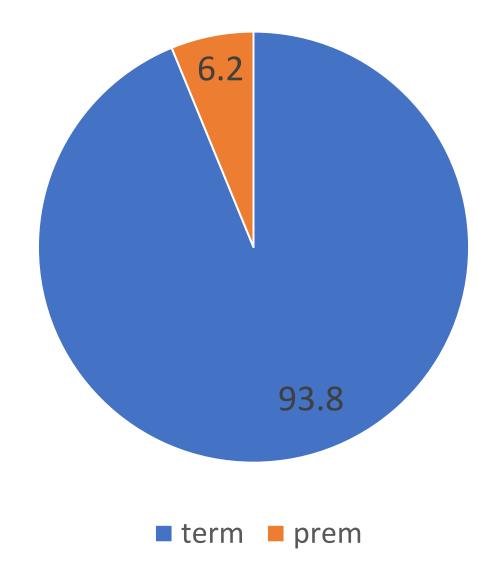


### Gestational age (N=65) term 61 (93.8%) \*prem 4 (6.2%)

\*-30/52-gut dysmotility, recurrent distension with feeding intolerance

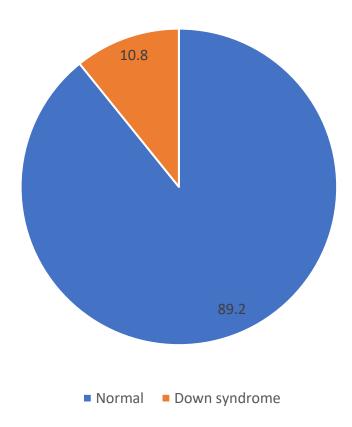
- -33/52-IDM TRO small left colon
- -36/52-abd distension with feeding intolerance
- -36/52-abd distension with feeding intolerance





Associated syndrome (N=65)		
Normal	58 (89.2%)	
Down syndrome	7 (10.8%)	

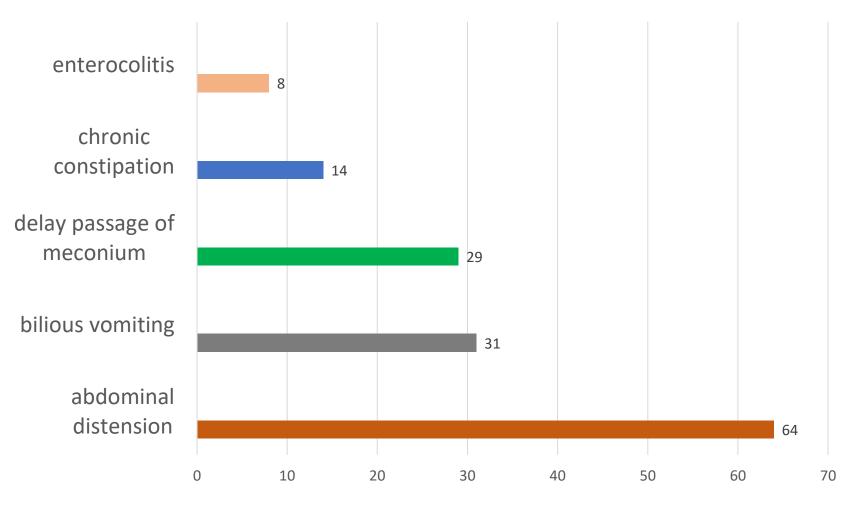
### Associated syndrome



	Minimum	Maximum	Median	IR
Age at	1	2555	3	24
presentation		(7y.o)		
(days)				

Clinical presentation	(N=65)
abdominal distension	64 (98.5%)
bilious vomiting	31 (47.7%)
delay passage of meconium	29 (44.6%)
chronic constipation	14 (21.5%)
enterocolitis	8 (12.3%)

### Clinical presentation



### MANAGEMENT

### **Initial diagnostic method**

Suction rectal biopsy	43 (66.2%)
*Contrast, biopsy	22 (33.8%)

\*Delay presentation (12)

Fail washout (2)

IDM TRO small left colon (3)

Done in other hospital (4)

Suspected long segment (1)

## rectal washout, surgery \*stoma, surgery 13 (20%)

<sup>\*</sup>Delay presentation (10) - right transverse (8), sigmoid (2) Fail washout (3) – sigmoid (2), descending (1)

# rectum 13 (20.0%) rectosigmoid 44 (67.7%) \*long segment 8 (12.3%)

<sup>\*</sup>Descending colon (3) Splenic flexure (5)

Operative statistics				
	Minimum	Maximum	Median	IR
age at surgery (days)	60	2645	90	90
weight at surgery (kgs)	3.65	24.00	5.9	1.77
			Mean	Std. Deviation
duration of surgery	90	340	224.83	6.779
(minutes)		(5 hours)		

### OUTCOME

Post operative recovery				
	Minimum	Maximum	Mean	Std. Deviation
duration of analgesia (days)	1	3	1.83	0.52
return of bowel function (days)	1	4	1.48	0.091
duration to full feeding (days)	1	4	1.94	0.095
length of hospital stay (days)	3	4	3.32	0.058

post op complication	N=41
fever	24 (36.9%)
anastomotic leak	0
surgical site infection	0
HAEC	12 (18.5%)
anastomotic stricture	6 (9.2%)
HD like symptoms	0

### Conclusion

- Pleasant surgery to perform
- Feasible for short and long segment HD
- Good alternative to open surgery
- Early post operative recovery
- Low complication rate

### References

- 1. Georgeson KE, Fuenfer MM, Hardin WD: Primary laparoscopic pull-through for Hirschsprung's disease in infants and children. *J Pediatr Surg* 30:1017, 1995 [PMID:7472924]
- 2. Teitelbaum DH, Wulkan ML, Georgeson KE, Langer JC. Hirschsprung Disease in Operative Pediatric Surgery, Zeigler MM, et al (eds) McGraw Hill, New York, 2009, pp. 571-591
- 3. Cilley RE, Statter MB, Hirschl RB, et al. Definative treatment of Hirschsprung's disease in the newborn with a one-stage procedure. Surgery 1994;115:551-556
- 4. Zani A et al: European Paediatric Surgeons' Association Survey on the Management of Hirschsprung Disease. *Eur J Pediatr Surg*27:96, 2017 [PMID:27898990]