



CONJOINED TWINS SEPARATION: EXPERIENCE IN HOSPITAL KUALA LUMPUR

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Introduction

Conjoined twins are rare anomalies with a higher incidence reported in Africa and South East Asia. The management of conjoined twins is extremely complex and has been a great challenge for the attending physicians. The first successful separation of conjoined twins in Malaysia was in 1981 and Hospital Kuala Lumpur had its first successful surgery in 1988.

Methodology

This review demonstrates the experience of managing conjoined twins who underwent separation surgery in Hospital Kuala Lumpur from 1988 till now. The type of the anatomical abnormalities and their outcome were highlighted. Non-separable twins were excluded in this review.

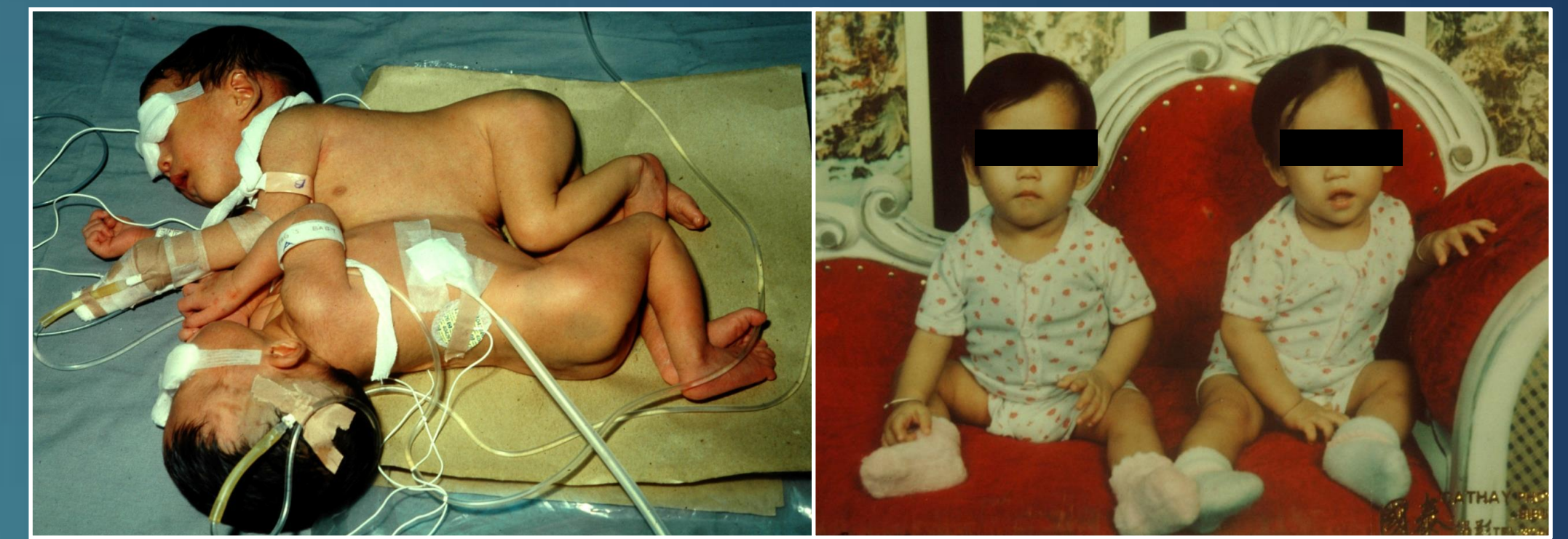
Results

Since the first conjoined twins separation in 1988, Hospital Kuala Lumpur have had a total of 15 pairs of conjoined twins who underwent separation surgery. Out of the 30 babies separated, we had to sacrifice two babies intentionally as one baby had severe dysmorphism and another one was a parasitic twin. Among those 28 babies who underwent subsequent surgery, 4 babies (2 pairs) ceased very soon after surgery, 3 babies passed on at a later age and 21 survived. 12 pairs had elective separation surgery in which 91% of them survived (21 out of 23 babies). Otherwise all 6 babies underwent emergency separation were died. There were 3 sets of omphalopagus twins, 4 sets of thoraco-omphalopagus, 3 sets of ischiopagus, 2 sets of omphalo-ischiopagus, 2 sets of pyopagus and 1 set of thoraco-omphalo-ischiopagus twins.

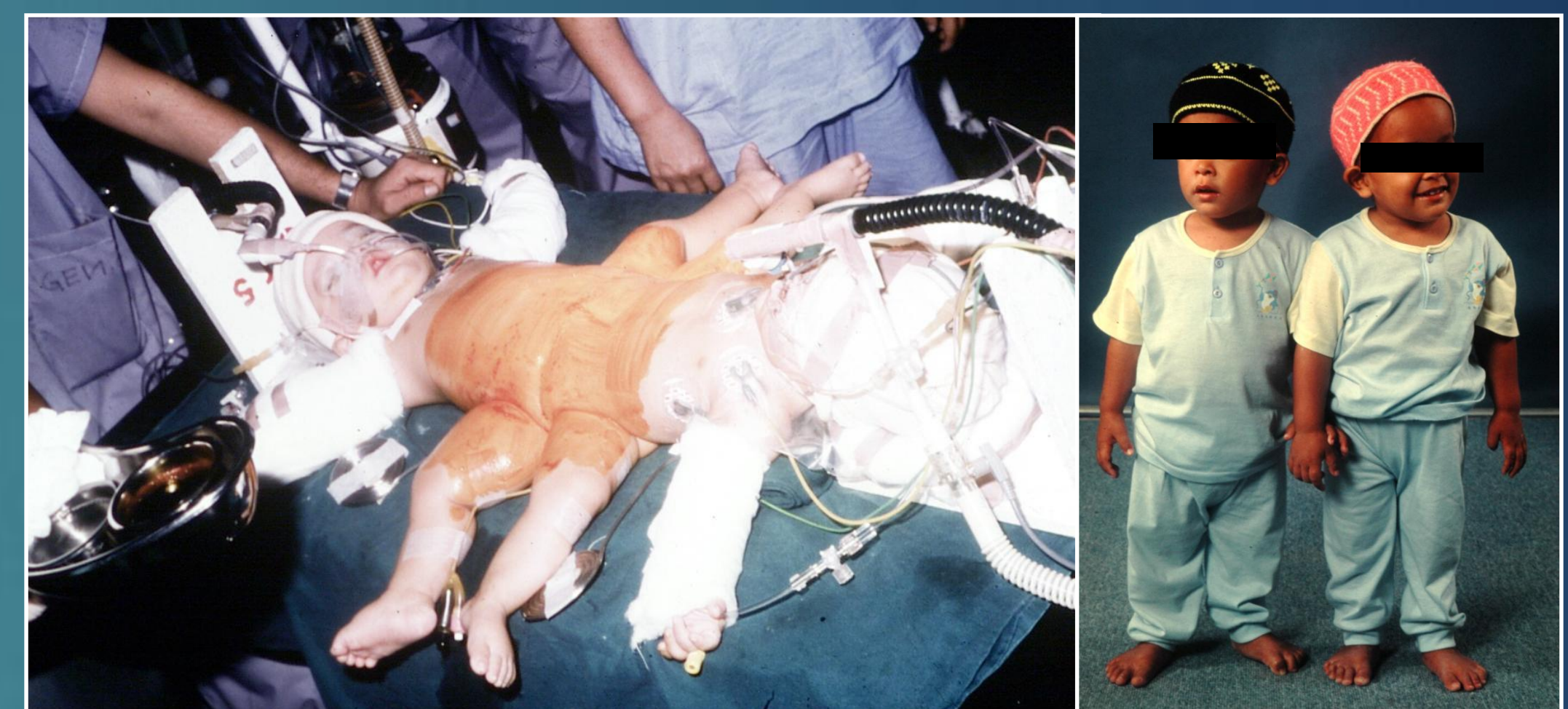
Twins	Year	Type	Outcome	Remarks
1	1988	Omphalopagus	Both alive	
2	1989	Ischiopagus	Both alive	Tetrapus
3	1989	Omphalopagus	Both alive	
4	1989	Thoraco-omphalo-ischiopagus	Both died	Dipus, underwent emergency separation complicated with severe haemorrhage
5	1995	Thoraco-omphalopagus	1 died (cardiac)	1 died for severe cardiac anomaly
6	1995	Omphalopagus	Both alive	
7	1995	Omphalo-ischiopagus	Both died	Tetrapus, underwent emergency separation complicated with severe haemorrhage
8	2002	Pyopagus	Died at 7 years	Asymmetrical parasitic twin
9	2002	Thoraco-omphalopagus	Both alive	Small intestine joined from D2-terminal ileum (at Meckel's area) / Fused liver / Single extrahepatic biliary tree with one gall bladder
10	2004	Pyopagus	Both alive	Shared Anus & Coccyx
11	2006	Ischiopagus	Both alive	Tetrapus, No anus, Single terminal ileum and short hindgut / Separate vagina and urethra / Patent urachus
12	2007	Thoraco-omphalopagus	1 sacrificed during surgery/1 died at home soon after discharge	Dysmorphic Twin 1 had severe cardiac and brain defects (Decision to sacrifice)
13	2011	Thoraco-omphalopagus	Both alive	Fused pericardium at apex / Fused liver / Separate biliary tree & intestines
14	2012	Ischiopagus	Both alive	Tripus, Single fused genitalia / Single terminal ileum & hindgut / Absent anus
15	2012	Omphalo-Ischiopagus	Both alive	Tetrapus, Small intestine joined from D2-terminal ileum (at Meckel's area) / Fused liver / Separate biliary tree

Conclusion

A total of 15 conjoined twins underwent separation surgery at our center and showed good outcomes with high survival rates. Complexity in managing these conditions requires detailed evaluations and prudent multidisciplinary care.



Twin 1: Omphalopagus (1988)



Twin 2: Ischiopagus (1989)



Twin 6: Omphalopagus (1995)



Twin 8: Asymmetrical conjoined twins (Pyopagus) (2002)



Twin 13: Thoraco-omphalopagus (2011)



Twin 14: Ischiopagus (2012)



Twin 15: Omphalo-ischiopagus (2012)



Twin 10: Pyopagus (2004)

References

Agostino Pierro, Edward M. Kiely & Lewis Spitz (2015) Classification and clinical evaluation (Conjoined twins); Seminars in Paediatric Surgery 24:207-2011