

## LOCKED TWINS — REPORT OF 2 CASES

By Y. M. Salmon, M.B.B.S., M.R.C.O.G.  
(Kandang Kerbau Hospital, Singapore)

Locking of Twins is a hazardous complication, which fortunately occurs rarely, 1 in 90,000 deliveries or 1 in 1,000 twin gestations. An excellent account of the condition is given by Nissen (1958), who reviewed the world literature from 1882 through April 1957, and collected 69 reported cases. Carlson and Henry (1962) have brought the total number of cases reported up to March 1961 to 79. Bennett (1962) and Bulfin and Bernat (1963) reported an additional case each of Breech and Vertex locking.

The present article describes 2 cases of Breech and Vertex locking, thus bringing the total number of cases reported in the world literature to 83.

### Case No. 1

The patient was a 24 years old, Indian female, Gravida 2, Para. 1.

Her last menstrual period was on 16.12.62 and her expected date of delivery was on 23.9.63.

At her first antenatal visit to the Kandang Kerbau Hospital on 12.8.63, she was 34 weeks gravid. She was 5 ft. 1½ ins. tall and weighed 113 lbs. There was no evidence of Pre-eclamptic Toxaemia. Twin pregnancy was diagnosed clinically, and confirmed radiologically, at this visit (Fig. 1). Baby A presented by the Breech and Baby B by the Head; both babies appeared of good size clinically, and there was no hydramnios.

Labour commenced spontaneously at 1.00 a.m. on 28.8.63, and the patient was admitted to the Kandang Kerbau Hospital at 4.30 a.m.

The period of gestation was 36 weeks.

The uterus was term size; Baby A presented by the Breech, which was not engaged, and Baby B was a Cephalic presentation. Both foetal hearts were regular and of good tone.

Vaginal examination showed early effacement of the cervix with the os 3 finger-breadths, or 5 cms. dilated. The membranes of the first sac were bulging and intact. The presenting part was a flexed Breech at station-2. The pelvis was gynaecoid and adequate, clinically.

At 5.20 p.m. on 28.8.63, the cervix was completely dilated. Under Pudendal block analgesia, Baby A (Breech presentation) was delivered easily up to the umbilicus at 5.25 p.m.; the shoulders were then delivered with a little difficulty. When the after-coming head of Baby A could not be delivered, further help was sought, and the patient was first seen by the writer at this stage. Examination revealed the head of Baby B engaged in the left Occipito-anterior position, compressing the neck of Baby A, while the head of Baby A was above the pelvic brim. As the locking was so tight, and as Baby A's heart beat was still present, a Lower Segment Caesarean Section under General Anaesthesia was performed in the best interests of both babies. The head of Baby B was dislodged from the pelvis and Baby A was delivered per abdomen at 5.55 p.m., followed by Baby B at 5.56 p.m. on 28.8.63.

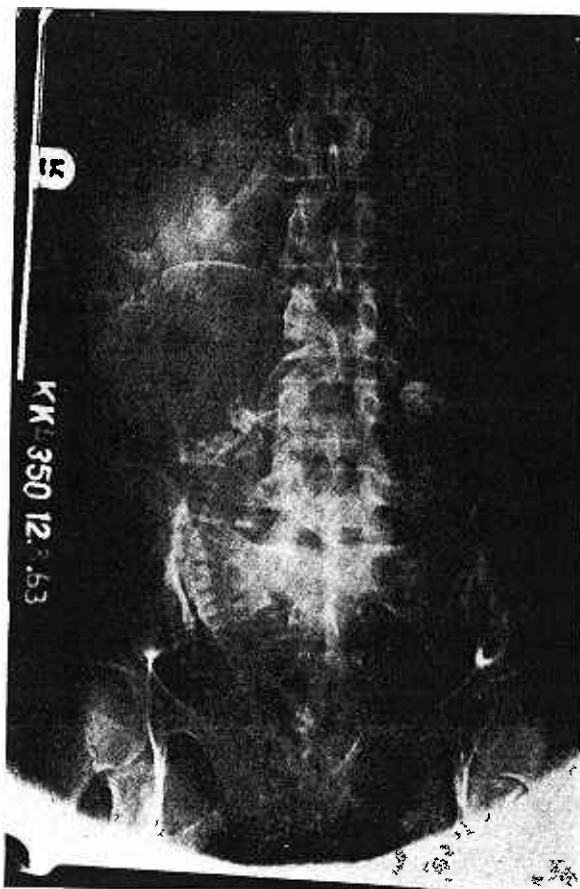


Fig. 1. Straight X-ray of twin pregnancy—Baby A, Breech. Baby B, Head.

Both babies were male, Baby A weighing 4 lbs. 1½ oz., and Baby B 4 lbs. 11 oz. The Placenta was uniovular and weighed 1 lb. 13 oz. There were retroplacental clots, covering almost half of the placenta relevant to Baby A. Baby A was feeble at birth and had a rather stormy first week; Baby B was satisfactory and progressed well. On 16.9.63, both babies and their mother were discharged well, the abdominal wound having healed by first intention.

A post-delivery X-ray pelvimetry of the patient showed that the brim diameters were medium, the antero-posterior diameters of the mid-pelvis large and the outlet medium.

<i>Inlet</i>			
True conjugate	-	-	113 mm.
Transverse	-	-	130 mm.
<i>Mid-Pelvis</i>			
Antero-posterior	-	-	124 mm.
Post sagittal	-	-	59 mm.
Interspinous	-	-	90 mm.
<i>Outlet</i>			
Antero-posterior	-	-	105 mm.
Post-sagittal	-	-	75 mm.

The patient was seen at the post-natal clinic six weeks later. She was well, the abdominal wound was well-healed, and the uterus satisfactorily involuted.

She has since had another normal pregnancy and easy vaginal delivery of a live male child, weighing 7 lbs. 0 oz. on 20.2.66.

The twins have also made good progress, and their milestones have been normal. A photograph of them taken at 2½ years of age is appended (Fig. 2). Their heights and weights at that time were as follows:

	Height	Weight
Baby A (Francis, Peter)	2 ft. 10½ ins.	24 lbs.
Baby B (Xavier, Paul)	2 ft. 10½ ins.	24½ lbs.

At 3 years of age, each baby weighed 25 lbs. and measured 2 ft. 11½ ins. in height.

### Case No. 2

This case was not under the writer's care.

A Chinese patient, aged 25 years Gravida 2, Para 0, was first seen at the Antenatal Clinic at 25 weeks gestation.

Her L.M.P. was 14.3.65 and E.D.D. 21.12.65.

Twin pregnancy was confirmed by radio-



Fig. 2. The locked twins at 2½ years of age. Baby A on right, and Baby B on left of picture.

logical examination at 33 weeks gestation, the first twin presenting by the Breech, the second twin by the Head.

The antenatal period was uneventful.

The patient was admitted to the Kandang Kerbau Hospital on 27.11.65, at 11.40 p.m., labour having commenced spontaneously at 5.30 p.m. The pelvis was thought to be clinically gynaecoid and adequate. At 1.00 p.m. on 28.11.65 Baby A (Breech presentation) was delivered without difficulty upto the chest. It was then found that the after-coming head of Baby A was locked chin-to-chin with the head of Baby B.

Under General Anaesthesia, pressure being maintained on the second foetal head, the two heads were pushed up and disimpaction achieved by manual rotation of the second head.

Baby A was then delivered at 1.40 p.m., on 28.11.65; the child was a stillborn female weighing 4 lbs. 14 ozs. Baby B was delivered with Wrigley's forceps at 1.43 p.m., and was a live (Apgar 6), female child weighing 4 lbs. 8 ozs.

Mother and Baby B were discharged well on the 6th day.

## COMMENT

Locking of twins is usually a late second stage diagnosis, when difficulty is encountered in delivering Baby A, and, therefore, in most cases the outcome is unfavourable for Baby A. Every attempt should be made to diagnose the condition early. In case No. 1 the X-ray film revealed the after-coming head of Baby A slightly higher than the other head, and, retrospectively, may have been a pointer to the later complication.

Predisposing causes of locking are usually small babies, large pelvis, primigravida, oligohydramnios, uterine hypertonicity or early rupture of the second sac. In both cases a contributory factor was probably the small size of the babies.

Four types of locking are described by Nissen, in order of frequency, *viz.*

- Group I Baby A Breech, Baby B Vertex
- Group II Baby A Vertex, Baby B Vertex
- Group III Baby A Vertex, Baby B Transverse Lie

Group IV Baby A Breech, Baby B Breech

The cases described here were examples of Group I, while Case No. 2 was a chin-to-chin locking.

Nissen further defined the types of twin entanglement as follows:

1. *Collison*—The contact of any foetal parts of one twin with those of its co-twin, freely preventing engagement of either.
2. *Impaction*—The indentation of any foetal parts of one twin onto the surface of its co-twin, thereby permitting partial engagement of both simultaneously.
3. *Compaction*—The simultaneous full engagement of the leading foetal poles of both twins, thus filling the true pelvic cavity and preventing further descent or disengagement of either.
4. *Interlocking*—The intimate adhesion of the inferior surface of a twin's chin with that of its co-twin above or below the pelvic inlet.

Case No. 1 is an example of compaction of the twins, while Case No. 2 belongs to the fourth type.

Treatment must be adapted to the individual case. Caesarean section is indicated if the locking is diagnosed early and the babies are alive, or if there is a suggestion of likely locking of the twins.

Another method of treatment is disengagement of the twins, which may be facilitated by putting the patient in the knee-chest position (Bennett, 1962).

The Kimball-Rand manoeuvre may be tried if disengagement fails. After Baby A is delivered to its neck, Piper forceps are used to apply traction and flexion to Head B. Hyperextension and traction of Baby A, with maintained flexion of Head B results in the simultaneous delivery of both heads.

If this fails and Baby A is dead, then destructive operations may be necessary. Bennett advises placing long stay sutures high on the neck of Baby A, and decapitation is performed below these ligatures. The head is disengaged into the uterine cavity, Baby B delivered, and head A then extracted with forceps.

In Case No. 1, delivery by Lower Segment Caesarean Section was decided upon, as the twins were deeply compacted, and Baby A was still alive. Thanks be to Almighty GOD that the babies, especially Baby A, survived, as the delivery time was prolonged. In Case No. 2, disimpaction was thought feasible. The mortality rate was usually higher with Baby A; in Nissen's report 50% of the infants in Breech/Vertex locking were lost, and of these 80% were Baby A.

## SUMMARY

Two cases of Locked Twins (Breech and Vertex) are presented, bringing the total number of such cases reported in the world literature to 83. The diagnosis, etiology, type of locking and management are discussed. Treatment of each case must be individualised.

Delivery in Case No. 1 was effected by means of a lower segment Caesarean Section, with survival of both babies. Case No. 2 was treated by disimpaction of both heads; Baby B survived.

## ACKNOWLEDGEMENTS

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