

# A maneuver for head entanglement in term breech/vertex twin labor

Stuart J. Fischbein

## ABSTRACT

**Whether planned or precipitous, some women will present in advanced labor with a breech first twin. We present a rare case of interlocking heads in a woman with a term breech/vertex pregnancy who strongly desired a vaginal birth. A simple vaginal maneuver is described that led to safe delivery of both twins.**

**Keywords: Breech, Complication, Inter-locking, Twin**

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## INTRODUCTION

When a first twin presents as breech a cesarean section is generally recommended [1]. When twin A is breech and twin B is vertex there is the concern for the

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rare complication of interlocking heads [2]. There is also evidence that supports the vaginal delivery of breech first twins and confirms the rarity of this complication [3]. As with all aspects of pregnancy and labor, informed consent is an integral part of the process. Mode of delivery will often depend on the desire of the mother in conjunction with the resources available to her. The will and expertise to assist women with singleton or twin breech birth, either A or B, is rapidly diminishing leading to increasing cesarean rates for all breech and twin births.

We present a case of diamniotic-dichorionic twins in which twin A presented as complete breech and twin B as vertex at 37 6/7 weeks. Descent of twin A arrested in left sacrum transverse position with the feet and lower body protruding. A diagnosis of head entanglement was suspected and confirmed by vaginal exploration. A fulcrum-like maneuver using the left hand internally to elevate twin B's head while freeing twin A led to subsequent vaginal delivery of both twins.

Vaginal birth of many twin pregnancies is a reasonable and evidence supported option. Fetal head entanglement is a rare complication of breech/vertex twin births. For women who choose to labor or present precipitously with a breech first twin we present a successful maneuver for resolving head entanglement.

## CASE REPORT

A 32-year-old gravid 1, para 0 woman presented with a diamniotic-dichorionic pregnancy by intrauterine insemination for prenatal care at 11 weeks gestation. There was no other pregnancy or health concerns. Non-Invasive Prenatal Testing (NIPT and structural ultrasound at 20 weeks were both normal. Babies were concordant throughout. From approximately 26 weeks on twin A was on maternal left and remained in complete breech position. Twin B, on maternal right, was also in breech position until 36 weeks at which point it became vertex. Twin B was noted to have a dolicocephalic head shape early on. During limited ultrasounds at 36 1/7 and 37 2/7 weeks it was determined that twin B's head was slightly lower in the pelvis than twin A's head. There was normal fluid and concordant growth. The mother strongly desired a vaginal birth and was well informed

in all her options, preferred to wait for labor to arrive and see how labor progressed.

In the early morning hours labor began becoming active around noon. A vaginal exam at 1:15PM confirmed complete breech at 5-6cm/100%/0 station and intact membranes. By 4:55PM she was completely dilated with bulging membranes. She was feeling an urge to push with rectal pressure and began the second stage at 5:10PM. Pushing was initiated on hands and knees. After about 40 minutes she changes to a semi-reclined position due to fatigue on her arms and shoulders. At 5:50PM the feet were seen to protrude from the introitus still inside an intact sac. Contractions continued every 2 to 3 minutes and the Fetal Heart Rate (FHR) of both babies via intermittent monitoring remained in the normal range without decelerations. By 6:09PM the legs and rump had appeared still inside the intact amniotic sac (Figure 1). There was good tone and capillary filling. At 6:12, the membranes were artificially ruptured releasing watery meconium stained fluid. Twin A did not descend any further and remained in the left sacrum transverse position. Attempts at rotation (Loveset maneuver) were unsuccessful in achieving any descent. The arms were then swept down over the chest without much resistance but still no descent and the head of twin B was evident in the right lower quadrant. Abdominal manipulation attempting to elevate twin B was unsuccessful in shifting

the positions. A diagnosis of head entanglement was made (Figure 2A). The practitioner's left hand was inserted up along twin A's body cupping its head in the palm while using the back of the hand to elevate twin B's head out of the pelvis in a fulcrum like manner (Figure 2B-C). This immediately freed twin A, who was then delivered easily with use of the Mauriceau-Smellie-Veit maneuver at 6:15PM weighing 5 pounds 10 ounces with Apgar scores of 7 & 9.

Prior to delivery of twin A the FHR of twin B was 160 with good variability. Three minutes post-delivery of twin A the FHR of twin B was at 80-90bpm and vaginal exam confirmed a cephalic presentation at -1 station. At 6:19 the membranes were artificially ruptured releasing clear fluid. Mother was able to push twin B to +2 station but baby was in the direct occiput posterior (OP) position and FHR remained in the 90s. Uterine contractions had diminished at this point and maternal pushing remained ineffective. Low Tucker-McLane forceps were applied with delivery of twin B, direct OP at 6:22PM. Apgar scores were also 7 & 9 and the weight was 6 pounds 1 ounce. A second degree laceration was noted and repaired.

**DISCUSSION**

In our case report we describe a well-informed woman and her partner aware of the possibility of interlocked or entangled heads but the rarity of this complication made it a minor consideration. To insist, by coercion or skewed counseling on a cesarean section for such a rare occurrence against the wishes of the mother would not be sound ethical practice. Labor progressed normally and there was a normal second stage for twin A until descent arrested. Breech delivery is facilitated on all fours and shortens the second stage and expands the pelvis [4]. That was evident here although the mother's arms and legs got tired and she had to switch to a semi-reclining position. We do not think the position change contributed to the head entanglement. More likely twin B's dolicocephaly prevented twin A's head from passing by and both heads descended in tandem. When descent and rotation of a breech baby arrests it may be a signal the baby needs assistance. The ineffectiveness of the usual maneuvers



Figure 1: Twin a still in caul remains left sacrum transverse.

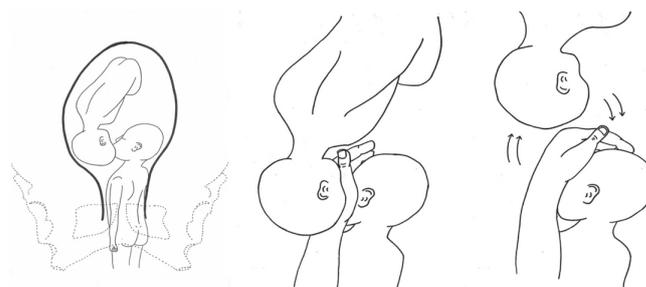


Figure 2: (A) Entangled fetal heads result in arrest of descent for Twin A. (B) Practitioner inserts hand vaginally. (C) Fulcrum-like maneuver elevates Twin B releasing obstruction.

to deliver twin A and the antenatal knowledge of the position and shape of the head of twin B facilitated the diagnosis of head entanglement. Intrapartum ultrasound may assist if the diagnosis is in question but may consume valuable time if not readily available. We present a novel vaginal maneuver to elevate the head of the second twin and facilitate passage of the breech twin. Using the back of the hand to elevate the vertex of twin B while gently cupping the head of twin A in a fulcrum-like fashion you can release the obstruction and successfully complete the vaginal breech delivery. If twin B is on mother's right you would use your left hand. If twin B is on the mother's left the practitioner would use the right hand.

The frequency of twin pregnancy in the U.S. in 2009 is about 1 in 30 pregnancies [5]. Vertex/vertex accounted for 44%. Vertex/breech presentation occurred in 27%, while breech/breech and breech/vertex occurred in 13% each [6]. There is ongoing discussion about the best way for term twins to deliver [7, 8, 9]. But no matter what the studies may conclude the science is uncertain and women may choose to exercise their right of informed consent and refusal to choose any alternative. There is enough evidence in the literature to support, as reasonable, the choice of attempting vaginal birth with breech first twins. When time is of the essence, use of stilled hands may provide resolution before resorting to a surgical approach.

## CONCLUSION

While no one has expertise in head entanglement resolution, the skills acquired from hands on training in breech delivery assist the practitioner with the spatial relationships useful for problem solving in a highly intense setting. We encourage the re-teaching of breech and twin skills for just those rare moments such as this.

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### Author Contributions

Stuart J. Fischbein – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

### Guarantor of Submission

The corresponding author is the guarantor of submission.

### Source of Support

None.

### Consent Statement

Written informed consent was obtained from the patient for publication of this case report.

### Conflict of Interest

Author declares no conflict of interest.

### Data Availability

All relevant data are within the paper and its Supporting Information files.

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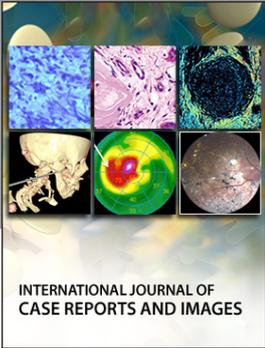
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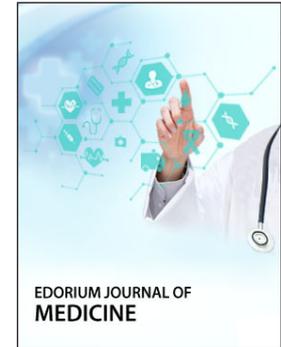
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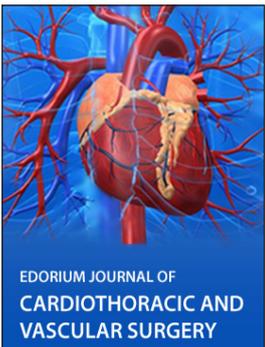
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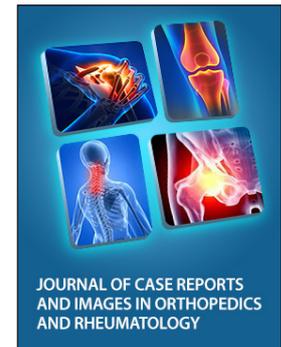
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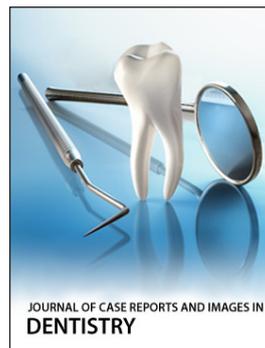
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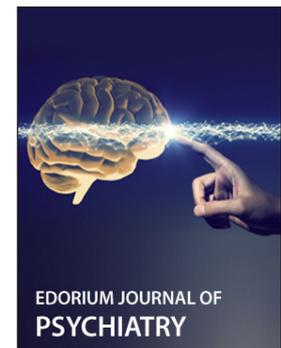
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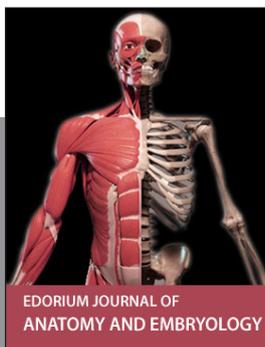
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