The midwife, the mother and the breech

thoughts on research, specialist practice, family life and minority positions

Dolichocephaly – understanding 'breech head' molding

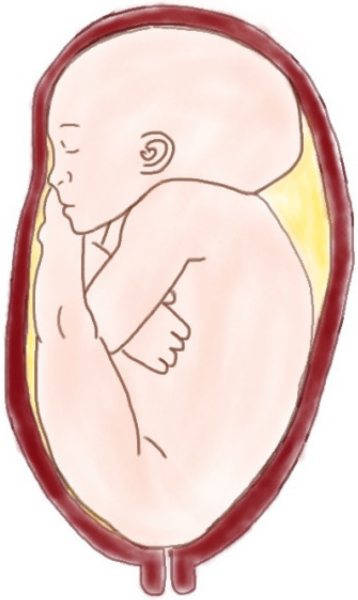
This post is about *dolichocephaly*, a form of positional molding which affects some breech babies – how it happens, why it may be important, and how to recognise it.

Everyone is concerned about entrapment of the after coming head in a breech birth. And it seems so unpredictable. Many breech babies, even large ones, seem to just fall out. And then others, not so large, get stuck. RCOG guidelines suggest an estimated fetal weight above 3800 g is 'unfavourable' for vaginal breech birth, but goes on to say, "If the baby's trunk and thighs pass easily through the pelvis simultaneously, cephalopelvic disproportion is unlikely." (*Easily* is undefined, but in light of the evidence against augmenting breech labours, I interpret it as *occurring spontaneously within about an hour of active pushing*.)

Can we predict which babies' heads are more likely to have difficulty passing through the pelvis? I don't know, but I feel one phenomenon in particular deserves more attention – *dolichocephaly*.

Technically, dolichocephaly is a mild cranial deformity in which the head has become disproportionately long and narrow, due to mechanical forces associated with breech positioning in utero (Kasby & Poll 1982, Bronfin 2001, Lubusky et al 2007). This change in shape is more commonly associated with primiparity (first babies), larger babies, oligohydramnios, and posterior placentas, all of which result in greater forces applied to the fetal head.

(**Note**: Like all positional molding which occurs in utero, dolichocephaly does not in itself cause nor indicate abnormal brain development. The head shape is highly likely to return to completely normal in the days and weeks following birth, especially if baby receives lots of holding and cuddles to permit free movement of the head.)

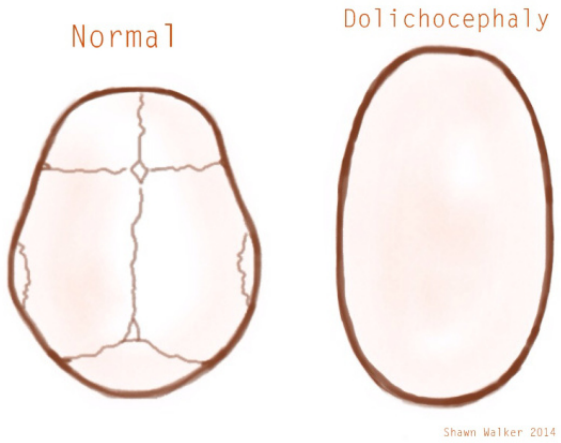


Dolichocephaly developing due to positional

Clinical Importance

pressures

Following the birth of the arms in a breech birth, the head
will be in the anterior-posterior diameter of the pelvis. When the head shape has become abnormally elongated, the longest diameter of the fetal head will meet the shortest diameter of the maternal pelvis at the inlet. Unless the baby is still on the small side and the pelvic inlet very round, the chin may get stuck on the sacral promontory, preventing head flexion. A very experienced breech provider will have encountered this situation before, and should be able to assist, but it is quite a tricky place to be. The head may need to be rotated into the transverse diameter to safely enter the pelvis. A very elongated head can have difficulty passing through the lower pelvis as well, and can cause damage to the maternal pelvic floor, unless appropriate techniques are used to assist the head to flex.



Abnormal head molding in some breech babies

Estimation of fetal weight by ultrasound is notoriously inaccurate. However, a lack of proportionality between the head circumference and the biparietal diameter is more obvious to spot (e.g. HC=90th percentile, BPD=60th percentile; or a difference in correlating dates of two weeks or more), and may be a more relevant indication that this baby is too big for this particular woman. Dolichocephaly can be discerned on palpation as well, as the occiput is prominently felt above the fetal back, the head is not ballotable, and may feel unusually wide. I would suggest caution where estimated fetal weight is above 3500 g and a difference in HC and BPD, or careful palpation, indicates abnormal cranial molding has occurred, especially for women who are having their first baby, have a low amniotic fluid index, and/or a high posterior placenta; and in situations where imaging pelvimetry is not used to confirm an ample pelvic inlet.

Counselling Women

Women instinctively do not like weight limits used as 'selection criteria.' One woman (Ann, multip, 6'1") looks at another (Carol, primip, 5'0") and they both think – *We can't possibly be expected to have similar-sized babies*. While Ann may carry a 4000 g baby with no abnormal head molding, and expect a straightforward birth, Carol's baby may begin to show signs of dolichocephaly at 3300 g, especially if she has low levels of amniot-

ic fluid and a posterior placenta. Carol may still have a successful birth, but it will more likely depend on the skill and experience of her attendant in assisting the aftercoming head to flex, rotate and negotiate the pelvic diameters, and the pelvic diameters themselves.

We need to move away from the concept of 'selection criteria,' which are used by professionals to make decisions for women, and towards an understanding of what is 'normal for breech.' We need to understand more about which babies are more likely to experience those beautiful, often-easier-than-cephalic, dancing-into-the-world births, and which babies are truly being put at additional risk by their in utero conditions.

Then we will be able to explain to women the benefits of a caesarean section for pregnancies which have become 'abnormal.' Women will be able to approach this intervention with an open heart when they observe professionals are truly supporting 'normal' breech births and providing individualised care and screening to those which are not.

I would love to know what others think about this.

Shawn

A 'normal' breech baby – well-flexed, with lots of room to move

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