Practical insight into upright breech birth from birth videos: a structured analysis

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Introduction: Birth videos have become a popular method for learning about breech birth. Case analysis of videos enables development of pattern recognition skills to distinguish normal from pathological, not otherwise possible in settings where breech births are rare. Use of birth video training can potentially support a safe, sustainable breech birth service even when numbers are small. We aimed to identify normal and pathological features of upright breech births through a structured analysis of birth videos, in order to create evidence-based descriptions for future teaching and research.

Methods: We performed a pilot structured analysis of 42 upright breech birth videos, using videos obtained from our personal teaching collections and publicly available on-line. Two researchers watched each video and described relevant clinical details and events to be analysed. A data collection tool was created on an Excel spreadsheet. This comprised more than 80 items, including timings of birth of pelvis, umbilicus, arms and head and all interventions. Following an initial analysis, the team met to discuss and agree changes to the data collection tool. A second analysis of each video was completed by two members of the research team. Discrepancies were discussed and resolved by agreement. Time-to-event intervals, frequencies and comparative analysis calculations were made using STATA software.

Results: In our sample of upright breech births, a completely spontaneous birth occurred in 11/42 cases. Among spontaneous births, the mean time between the birth of the fetal pelvis (bitrochanteric diameter) and the completed birth was 1:19, Md=0:56 (IQR 0:14,1:36). Among the remaining cases, the following manoeuvres were used: shoulder press to flex the aftercoming head in mid-pelvis (n=24), buttock lift to assist shoulder press (n=6), Mauriceau Smellie-Veit (MSV)/modified MSV (n=6), elevate & rotate fetal head to assist engagement (n=2), sweeping down arm/s (n=15), rotational manoeuvres to release a nuchal arm (n=6), conversion into supine maternal position (n=2). We also describe the average amount of time required to resolve clinical problems with upright breech manoeuvres.

Conclusion: This analysis of systematically gathered birth video data is the first study to provide evidence for defining normal and pathological features of physiological breech births. We have demonstrated that any delay > 1 minute 36 seconds after birth of the pelvis has a significant likelihood of obstructive causes that can be promptly resolved with appropriate assistance. We advocate a larger, prospective study, including outcome data, to inform globally accessible on-line training alongside local hands-on simulation.

A suggested algorithm of interventions and timings based on our results is available from: https://breechbirth.org.uk/publications/