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PERSISTENT PRENATAL MICROCEPHALY WITH NORMAL NEONATAL OUTCOME: AVOIDING MISDIAGNOSIS WITH CEPHALIC INDEX



Kristiana Marian Calupitan-Songco, M.D. DPOGS

Department of Obstetrics and Gynecology, Section of Maternal-Fetal Medicine, Makati Medical Center

BACKGROUND

Prenatal microcephaly is commonly suspected from low head circumference (HC) and biparietal diameter (BPD). However, cranial shape affects fetal biometry. Dolichocephaly may produce a disproportionately small BPD and low HC despite preserved cranial length and otherwise normal neurosonography.

CASE

- 28 yo **G3P2** referred at **22 5/7 weeks** for suspected small-for-gestational-age fetus
- Serial EFW: 5th-16th percentile
- From 13 weeks onward, BPD and HC were **<3rd** percentile, and later **<1st** percentile
- Amniotic fluid volume and Doppler studies were **normal**
- Detailed anatomic survey and fetal neurosonography were **unremarkable**
- NIPT was **low risk**

RESULTS

SERIAL BIOMETRY

AOG	EFW	BPD	HC	CI
23	449 g	4.7	19.3	61%
25	613 g	5.6	21.8	66%
31	1458 g	6.9	27.4	71%
33	1893 g	7.2	28.5	68%

INTERPRETATION AND OUTCOME

At 38 weeks, a live female infant was delivered via repeat Caesarean Section.

Birth weight
2530g

Apgar
8,9

HC
32 cm

WHY THIS WAS NOT TRUE MICROCEPHALY

- CI: 61–71% (consistent with dolichocephaly)
- Preserved OFD supported elongated cranial shape rather than reduced cranial volume
- No structural abnormalities
- Interval fetal growth remained stable

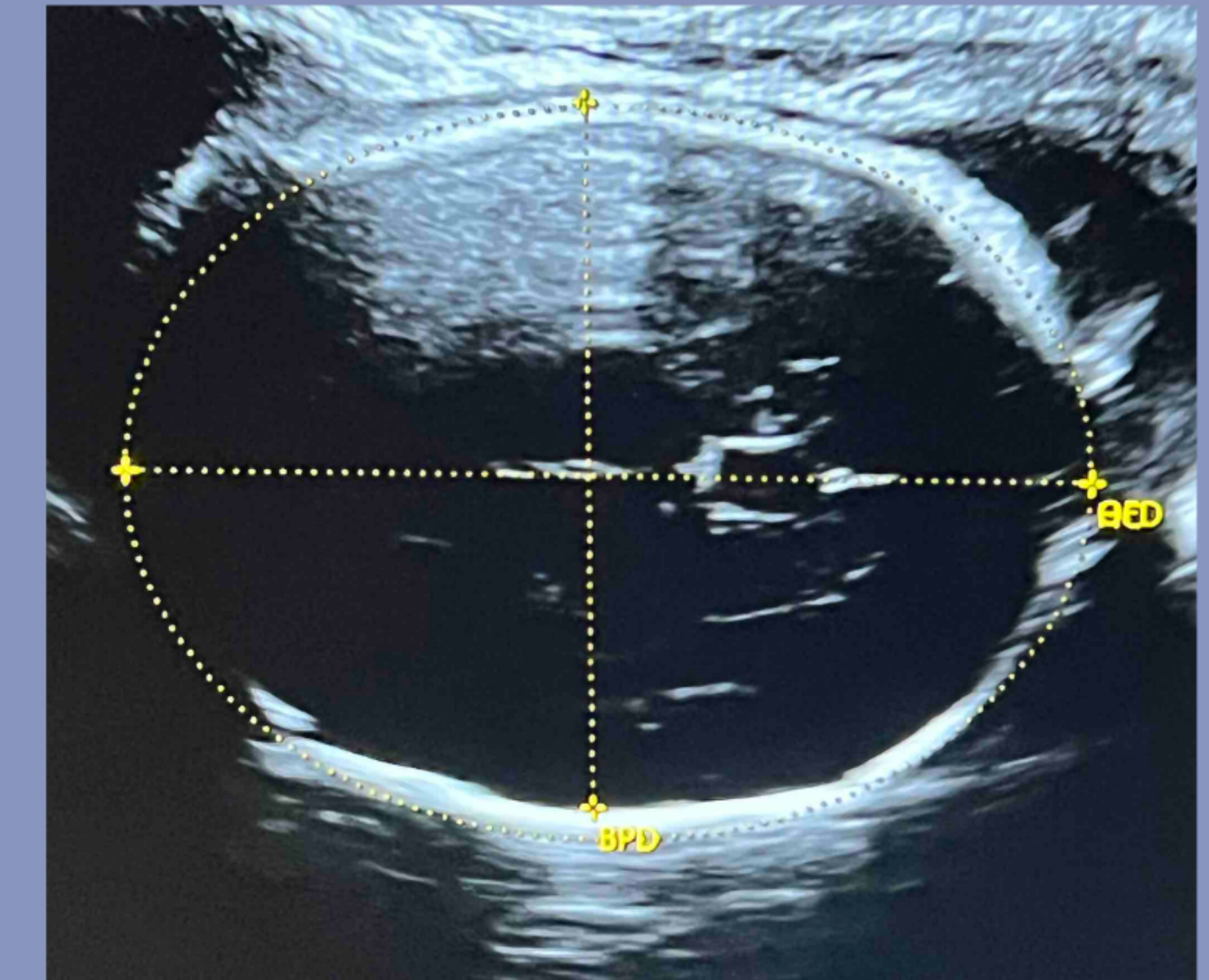


Figure 1. Axial view of the fetal head demonstrating elongated cranial morphology with reduced biparietal diameter, supporting dolichocephaly

CONCLUSION

- Cranial shape variation, particularly dolichocephaly, may reduce BPD and HC and mimic prenatal microcephaly.
- Assessment of cranial morphology, neurosonography, interval growth, Doppler studies, and genetic screening is essential when evaluating suspected microcephaly.
- Cephalic index provides a useful adjunct to fetal biometry, helping distinguish true microcephaly from shape-related variation and guide appropriate prenatal counseling.