

Maternal and Perinatal
Characteristics of Small for
Gestational Age Newborns
Compared to Appropriate for
Gestational Age Newborns

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Objective

- The aim of this study was to compare the **maternal and perinatal characteristics** of small for gestational age (**SGA**) and appropriate for gestational age (**AGA**) singleton newborns managed at **Başkent University Ankara Hospital between January 2006 and December 2015.**

Methods 1

- SGA was defined as birthweight <10p with respect to gestational age
- AGA was defined as birthweight between 10p-90p with respect to gestational age.
- Delivery records and patients' files between January 2006 and December 2015 were retrospectively analyzed.
- Twin and triplet pregnancies were excluded from this study.
- The study group included **SGA** newborns ($n = 456$) and the control group included **AGA** newborns ($n = 4925$).

Methods 2

- Maternal demographic features,
 - Infertility treatment if present,
 - Maternal and obstetric problems (hypertensive disorders, diabetes, oligohyramnios, preterm birth)
 - Major congenital anomalies, karyotype abnormalities and genetic syndromes
 - Gestational age at delivery,
 - Birth weight,
 - Admission to neonatal intensive care unit (NICU) and perinatal mortality
- were recorded.

- Statistical analysis was performed using SPSS for Windows, version 22.0. Mann–Whitney U and χ^2 tests were used where appropriate.

Results 1

	Study group n = 456 Mean ± SD (range)	Control group n = 4925 Mean ± SD (range)	P
Maternal age (years)	30.61 ± 5.25 (18–58)	31.11 ± 4.63 (16–49)	<0.05
Gravidity	1.75 ± 1.07 (1–9)	1.83 ± 1.07 (0–11)	>0.05
Parity	0.41 ± 0.66 (0–5)	0.49 ± 0.68 (0–8)	<0.05
Advanced maternal age	99/456 (21.7)	1139/4925 (23.1)	>0.05
Gestational age at delivery (weeks)	37.01 ± 3.42 (20–42)	38.04 ± 2.37 (20–42)	<0.05
Birth weight (grams)	2310.45 ± 605.66 (240–2920)	3222.91 ± 502.11 (310–4090)	<0.05

Results 2

	Study group n = 456 Rate (%)	Control group n = 4925 Rate (%)	<i>P</i>
ICSI newborns	56/456 (12.3)	393/4925 (8)	<0.05
Hypertensive disorders	59/456 (12.9)	178/4925 (3.6)	<0.05
Diabetes mellitus	35/456 (7.7)	349/4925 (7)	>0.05
Oligohydramnios	56/456 (12.3)	154/4925 (3.1)	<0.05
Preterm delivery	103/456 (22.6)	524/4925 (10.6)	<0.05
Major congenital anomaly/chromosomal anomaly/syndrome	40/456 (8.8)	206/4925 (4.2)	<0.05
NICU admission	122/456 (26.7)	411/4925 (8.4)	<0.05
Perinatal mortality	24/456 (5.3)	60/4925 (1.2)	<0.05

Conclusions

- SGA was significantly associated with ICSI pregnancies, hypertensive disorders, oligohydramnios, preterm delivery, major congenital or chromosomal anomalies or syndromes, admission to NICU and perinatal mortality. It is important to be aware of these associations in clinical practice.
- Clinical suspicion of SGA necessitates close monitoring and appropriate management.

Results Doppler 1

	Abnormal Doppler n = 34 Mean ± SD (range)	Normal Doppler n = 57 Mean ± SD (range)	P
Maternal age (years)	31.03 ± 5.22 (20–39)	30.7 ± 5.37 (18–47)	>0.05
Gravidity	1.59 ± 0.98 (1–5)	1.67 ± 0.89 (1–4)	>0.05
Parity	0.32 ± 0.63 (0–2)	0.33 ± 0.63 (0–3)	>0.05
Gestational age at delivery (weeks)	36.5 ± 2.98 (29–40)	37.37 ± 2.61 (27–41)	>0.05
Birth weight (grams)	2148.68 ± 612.96 (680–2890)	2362.44 ± 464.27 (605–2920)	>0.05

Results Doppler 2

	Abnormal Doppler n = 34 Rate (%)	Normal Doppler n = 57 Rate (%)	<i>P</i>
ICSI newborns	7/34 (20.5)	13/57 (22.8)	>0.05
Hypertensive disorders	7/34 (20.5)	8/57 (14.0)	>0.05
Diabetes mellitus	6/34 (17.7)	5/57 (8.7)	>0.05
Oligohydramnios	5/34 (14.7)	11/57 (19.2)	>0.05
Preterm delivery	12/34 (35.2)	10/57 (17.5)	>0.05
Major congenital anomaly/chromosomal anomaly/syndrome	7/34 (20.5)	9/57 (15.7)	>0.05
NICU admission	15/34 (44.1)	17/57 (29.8)	>0.05
Perinatal mortality	1/34 (2.9)	2/57 (3.5)	>0.05