No Link Seen Between PCOS and Small Fetal Size

BY JEFF EVANS

WASHINGTON — Female infants born to women with polycystic ovary syn-
drome do not appear to have high levels of androgens or to be small for gesta-
tional age, based on the results of a prospective, case-control study.

In fact, offspring born to mothers with polycystic ovary syndrome (PCOS) were
more likely than controls to be large for gestational age.

Findings from clinical and animal-
based studies suggest that PCOS may
originate during fetal development. Pre-
natal exposure to androgens has been
shown to induce a PCOS phenotype in
sheep, monkeys, and rats. In humans, ret-
rospective studies have demonstrated
that girls with PCOS features and pre-
mature menarche had been significant-
ly small for their gestational age, ac-
cording to Helen Anderson of the
division of endocrinology, metabolism,
and molecular medicine at Northwestern
University, Chicago.

To determine if the intrauterine envi-
ronment of women with PCOS alters fe-
tal growth and androgen levels, Ms. An-
derson and her associates compared
singleton pregnancies in 39 women with
PCOS and 31 healthy control women.
The participants were non-Hispanic
white women who met National Insti-
tute of Child Health and Human Devel-
opment criteria for PCOS. Women with
PCOS had less than six menses per year,
whereas healthy control women had a
history of regular menses. None of the
participants had a history of gestational
diabetes, preexisting medical conditions,
or complications during pregnancy.

Compared with healthy controls, a
larger percentage of women with PCOS
were nulliparous (64% vs. 39%) or had
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ro fertilization (77% vs. 6%). Women
with PCOS were slightly, but signifi-
cantly, younger than the healthy control
women (30 years vs. 32 years). Although
PCOS women had a slightly higher mean
body mass index than did control
women, they had comparable maternal
weight gains.

The birth cohort consisted of more
females (43) than males (27) because
the investigators were primarily inter-
ested in female offspring, and they ex-
cluded women known to be carrying a
male fetus.

Overall, the gestational age and birth
weight of infants did not differ between
women with and without PCOS. How-
ever, when Ms. Anderson and her col-
leagues stratified the analysis according
to size at gestational age, a significantly
greater proportion of the infants born to
women with PCOS were large for ges-
tational age (greater than 90th per-
centile), compared with healthy controls
(23% vs. 3%).

“This may be secondary to the in-
creased nutritional flow across the pla-
centa,” as elevated levels of insulin and
androgens have been demonstrated in preg-
nant women with PCOS, Ms. Anderson
said at the annual meeting of the
Endocrine Society.

Analyses of the steroid hormones in
whole (mixed arterial and venous) cord
blood showed that the female offspring of
PCOS women had significantly lower
levels of androstenedione and estradiol
than did the female offspring of controls.

However, female offspring had no dif-
ferences in levels of testosterone, dihy-
drotestosterone, and dehydroepiandro-
terone, although Ms. Anderson said that
many of the testosterone and dihy-
drotestosterone values were at the low
end of detectability for the assays.

Female offspring from either group of
women showed no differences in levels of 17-hydroxyprogesterone or in the ra-
tio of testosterone to estradiol levels.

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ed the study. Ms. Anderson reported hav-
ing no conflicts of interest to disclose.