

The International AGD Consortium: a multi-center study of 3939 infants and children with anogenital distance measurements

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Background

The anogenital distance (AGD) is considered a valid marker of altered androgen action *in utero*. Recently, shorter AGD has been shown in males with hypospadias, cryptorchidism, poor semen quality and infertility. It has also been proposed as a new marker to be used by clinicians when managing patients with Disorders of Sex Development. However, little normative data exist and measurement methods vary.

Objectives

We established the International AGD Consortium (IAC), hosted by EDMaRC (www.edmarc.net), with the primary aim of creating an international database for AGD. The aims of IAC are to:

- 1) Generate normative data for AGD in infancy and childhood.
- 2) Explore the variability in AGD related to age, sex, body size, ethnicity and measurement method.
- 3) Promote and facilitate AGD-related research by providing access to a large international data set of AGD measurements and relevant covariates.

Method

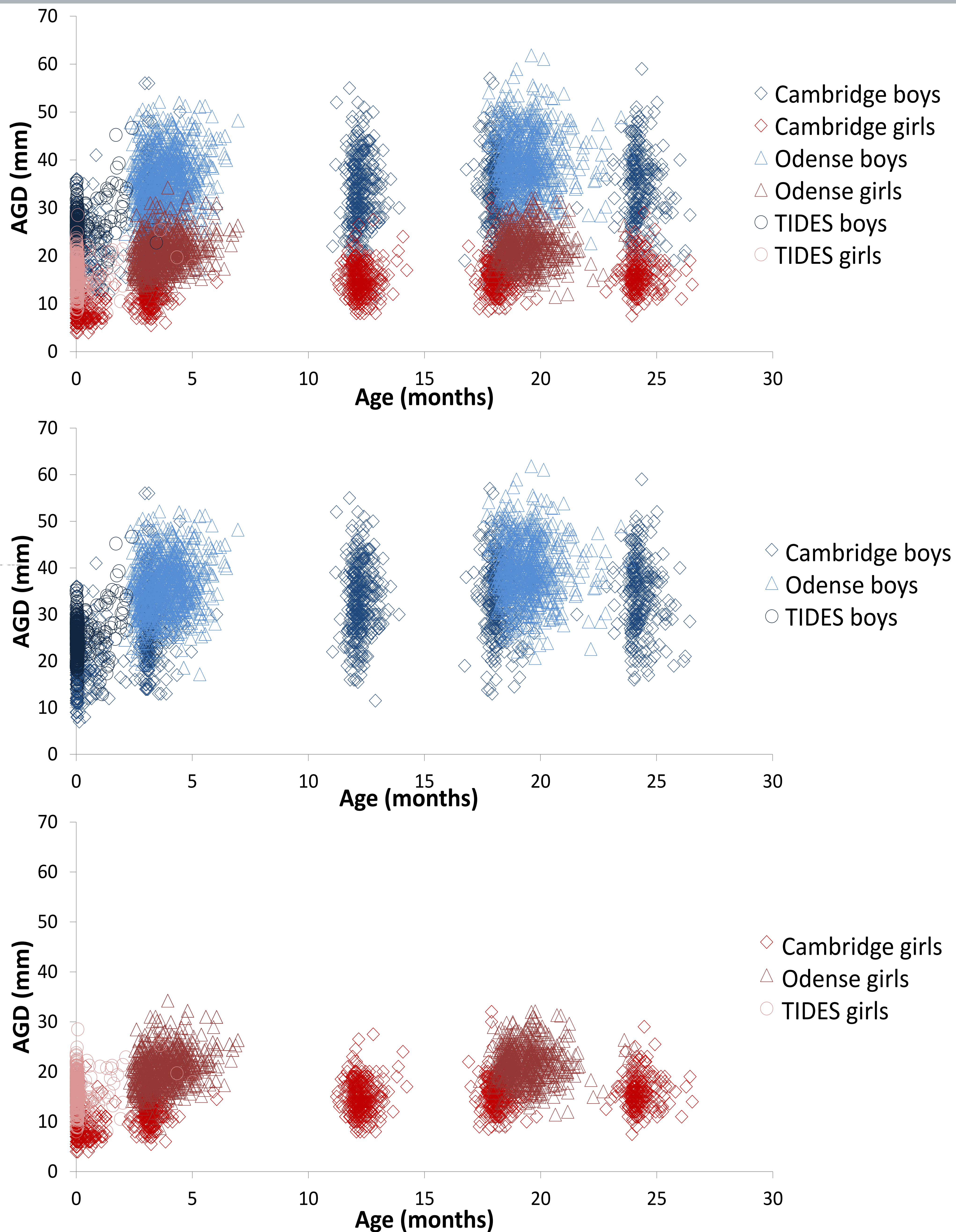
Anonymized data on measurements of AGD, relevant anthropometric data, age, genital phenotype and background data including birth weight, gestational age, ethnicity and measurement method will be included in the database. Normative data for the different types of AGD will be generated using the Lambda-Mu-Sigma (LMS) method.

Results

The IAC database has been developed, validated and registered (www.clinicaltrials.gov #NCT02497209). At the time of writing, it includes data from The Odense Mother-Child Cohort (DK), The Cambridge Baby Cohort (UK) and The Infant Development and the Environment Study (TIDES) (US). A total of 3939 children aged 0-30 months with 9084 examinations have been included, Fig. 1-3. Two different methods of AGD measurement have been used (Cambridge vs Odense/TIDES).

Conclusion

The IAC database has been created and currently includes data from 3939 children. Principle investigators from all published studies on infant/child AGD will be invited to join IAC. At this stage, age-, gender- and center related differences are apparent. Further analyses including the creation of normative AGD values according to gender, age, ethnicity and method will subsequently be carried out.



Figures 1-3. AGD (ano-scrotal and ano-fourchette) measurements (mm) according to age grouped by center and sex

