Background

Delayed puberty is common in Duchenne muscular dystrophy (DMD) due to long-term glucocorticoid (GC) therapy. However, there has been no prospective study of testicular development in this cohort.

Objectives

To evaluate testicular development and function in DMD over a 12 month follow-up period from a prospective, longitudinal study.

Methods

23 boys with DMD with median age 12.4 (10.0, 16.8) years had pubertal assessment carried out by a single endocrinologist. Testes volume was converted to Z scores adjusted for bone age (TVBA-Z score). Plasma luteinising hormone (LH), follicle stimulating hormone (FSH) and testosterone levels were measured. Inhibin B levels were converted to Z scores adjusted for bone age. For statistical analysis, cohort was split into:
- Group A (pre-pubertal; G1 and testes <4 ml),
- Group B (virilised by testosterone therapy; G2+ but testes <4 ml), and
- Group C (spontaneous puberty; G2+ and testes 4+ ml). Results expressed as median (range).

Results

Cohort characteristics (n=23).

GC therapy at baseline and 12 months.

DFZ: Delfazacort.

Genital stages change from baseline to 12 months.

Red: Group A. Blue: Group B. Green: Group C.

Testes volume Z scores

Inhibin B Z scores

Testosterone (nmol/L)

Results continued

Conclusion

1- DMD boys have relatively small testes when compared with healthy boys and adjusted for bone age.
2- Longer period of follow-up of puberty and further details of gonadal function in these boys are needed and underway.