Gonadal Evaluation in Boys

1. Targeted H&P (incl. testicular volume)
2. Review growth curve
3. Bone age
4. LH, FSH, testosterone
5. Testicular US

Abnormal US +/- macro-orchidism

Likely MAS-associated gonadal involvement

Evaluate for precocious puberty

Elevated testosterone +/- bone age advancement

Likely MAS-associated PP

Normal US, macro-orchidism

MAS-associated gonadal involvement unlikely

Normal labs, bone age advancement ≥2 years

- Consider subclinical PP - - Consider hyperthyroidism and/or GH excess

Normal US, no macro-orchidism

Normal labs, no bone age advancement

No MAS-associated PP

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1 Performed at initial presentation in all boys suspected of having MAS, regardless of clinical symptoms. 2 Typical MAS-associated macro-orchidism presents with uniform, unilateral or bilateral testicular enlargement without discrete masses. 3 Precocious puberty is less likely to occur in patients without testicular involvement on ultrasound. 4 Hyperthyroidism and GH excess may present with bone age advancement. 5 Autonomous testicular activity may present at any time during childhood. Boys should continue to be monitored clinically for signs of peripheral PP, however routine labwork and imaging is not recommended.

References

Legend
FSH = follicle stimulating hormone; GH = growth hormone; H&P = history & physical exam; LH = lutenizing hormone; MAS = McCune-Albright syndrome; mo = months; PP = precocious puberty; US = ultrasound