

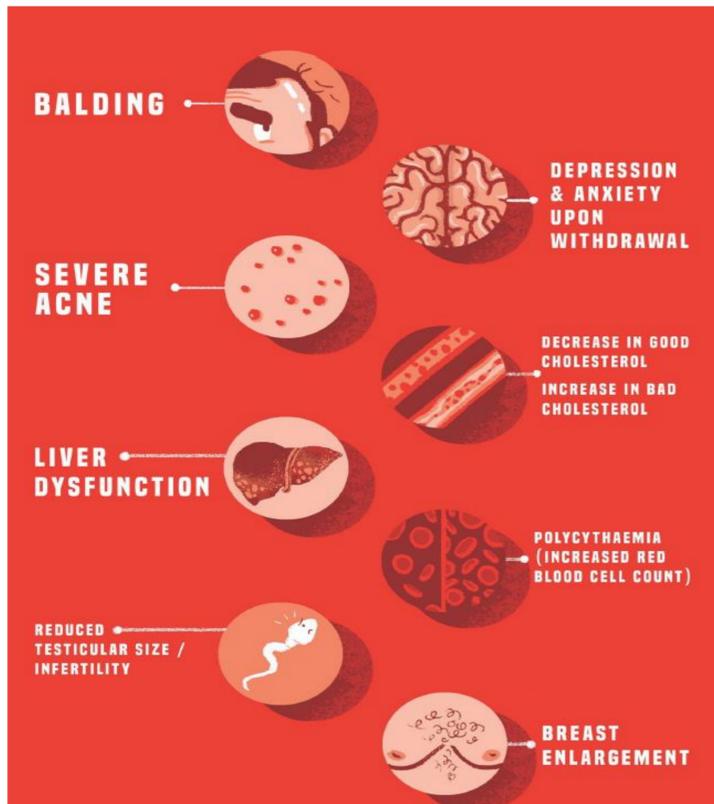
Steroid-emic; A Public Health Crisis?

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Introduction

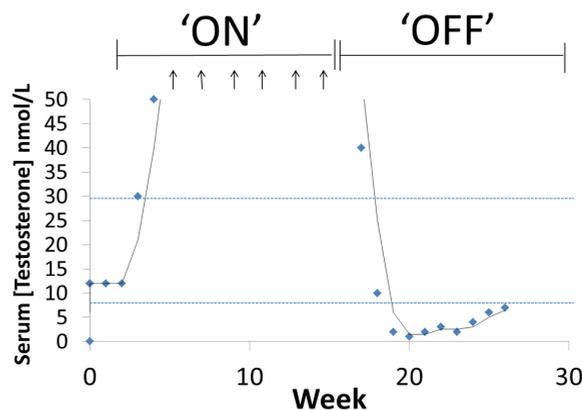
Are we facing a steroid-emic?

- Usage and complications (see figure below) associated with androgenic-anabolic steroid (AAS) use are becoming increasingly common with presentation of patients to both primary and secondary care.
- There are estimated to be between 1 and 3 million lifetime users in the UK.



AAS – what are they?

- AASs are primarily testosterone and testosterone derivatives that bind to the androgen receptor.
- Common dosage range from 10-100x that produced naturally.
- Multiple AASs are often 'stacked' [poly-pharmacy] together and taken in cycles (12 weeks on, 12 weeks off).
- There is a period of hypogonadism following cessation due to suppression of pituitary gonadotrophs while 'on' cycle (see figure below)

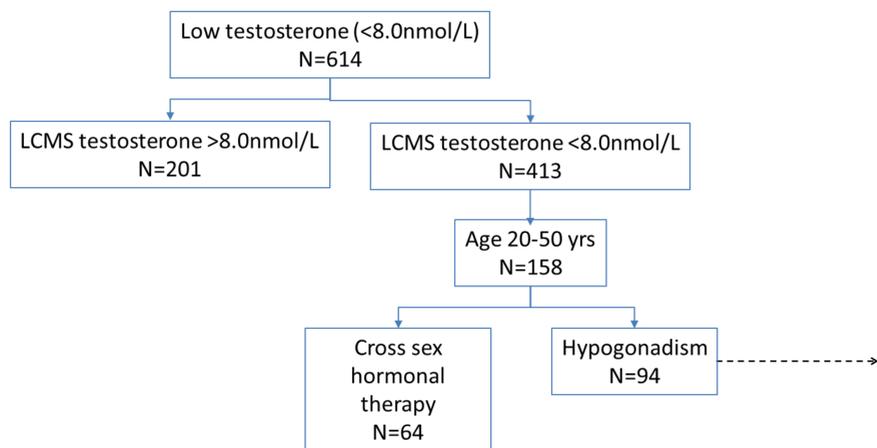


Audit Objective & Methods

- To quantitate if this represents a significant burden in the West Yorkshire population, a clinical audit was conducted to determine what proportion of hypogonadism could be attributed to AAS usage
- Laboratory information systems (Telepath) were interrogated, July 2020 - May 2021 for LCMS testosterone results in males from primary care only (n=614).
- LTHT perform front-line immunoassay testosterone and reflex LCMS testosterone on all results <8.0nmol/L

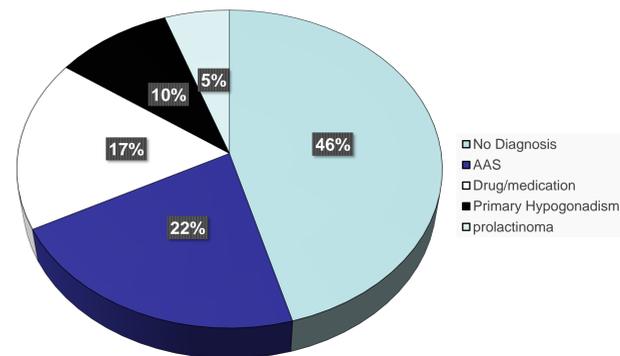
Audit Findings (1)

One Third (n=201) of testosterone results reported by immunoassay are false positives (LCMS testosterone >8.0nmol/L) for diagnosis of hypogonadism (positive interference in immunoassay result).



Audit Findings (2)

- PPM records were reviewed (n=94) to determine the causes of hypogonadism.
- AAS usage accounts for >20% of the causes of hypogonadism (age 20-50yrs), this increases to >30% for age 20-40yrs.



Conclusions

- Users of AAS may present with a plethora of significant health complications.
- Cessation of AAS use will likely result in hypogonadism;; this cause accounts for over one fifth of all causes of hypogonadism in the Leeds area (age 20-50yrs).
- Increased awareness of this epidemic is important for both clinicians and laboratory staff.
- Validation of our reflex protocol (LCMS) for low testosterone results given around one third of all male, low testosterone results reported by immunoassay are subject to positive interference.