



UZ
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Male History, Clinical Examination and Testing

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UNIVERSITY HOSPITALS LEUVEN

Jan is 29 years old and consults for 1 year primary subfertility
partner 28 years old and normal gynaecological investigation

sperm sample:

- volume 2 cc, pH=7
- sperm concentration 4 million/cc
- motility 15 % and morphology 3%

diagnosis:

- extreme oligoasthenoteratozoospermia

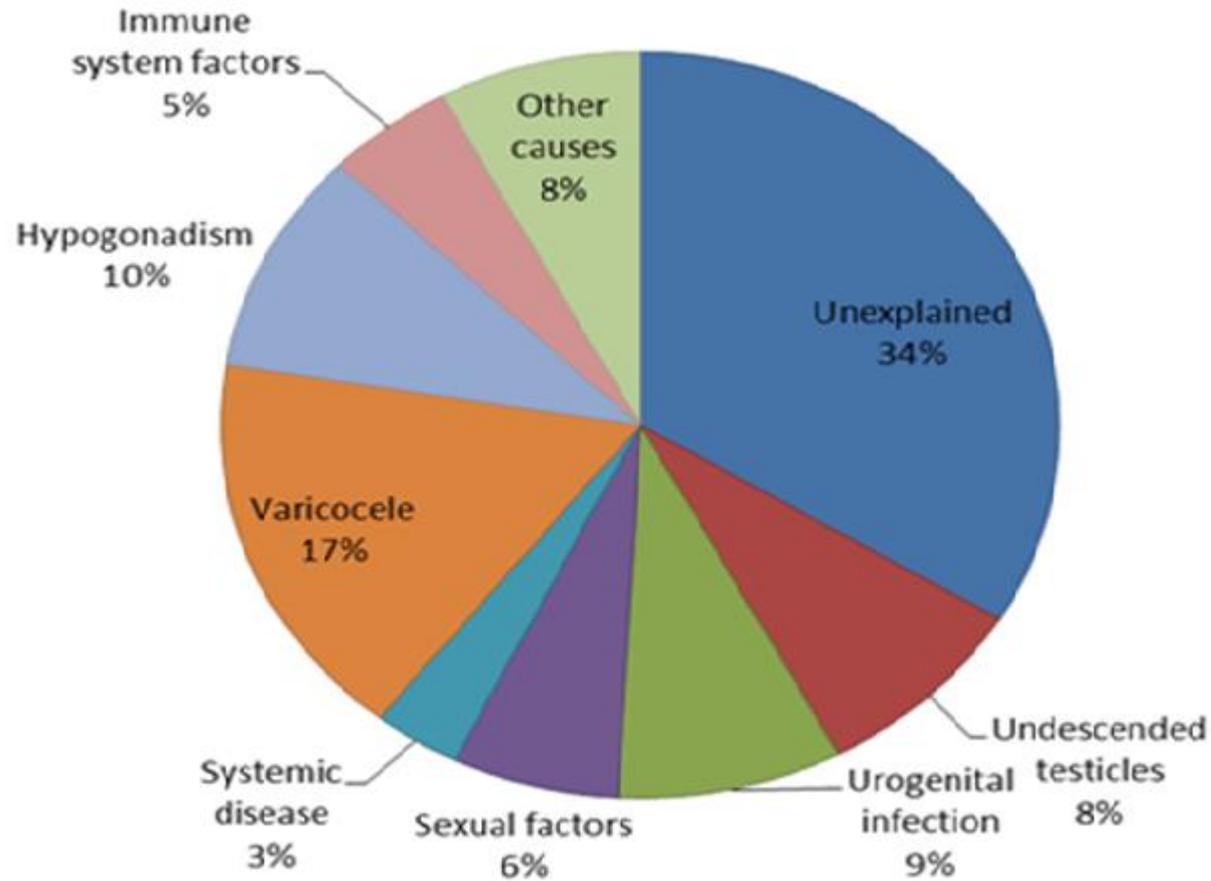
therapy:

- IVF/ ICSI is proposed

question:

- additional testing required ?

Cause of male infertility

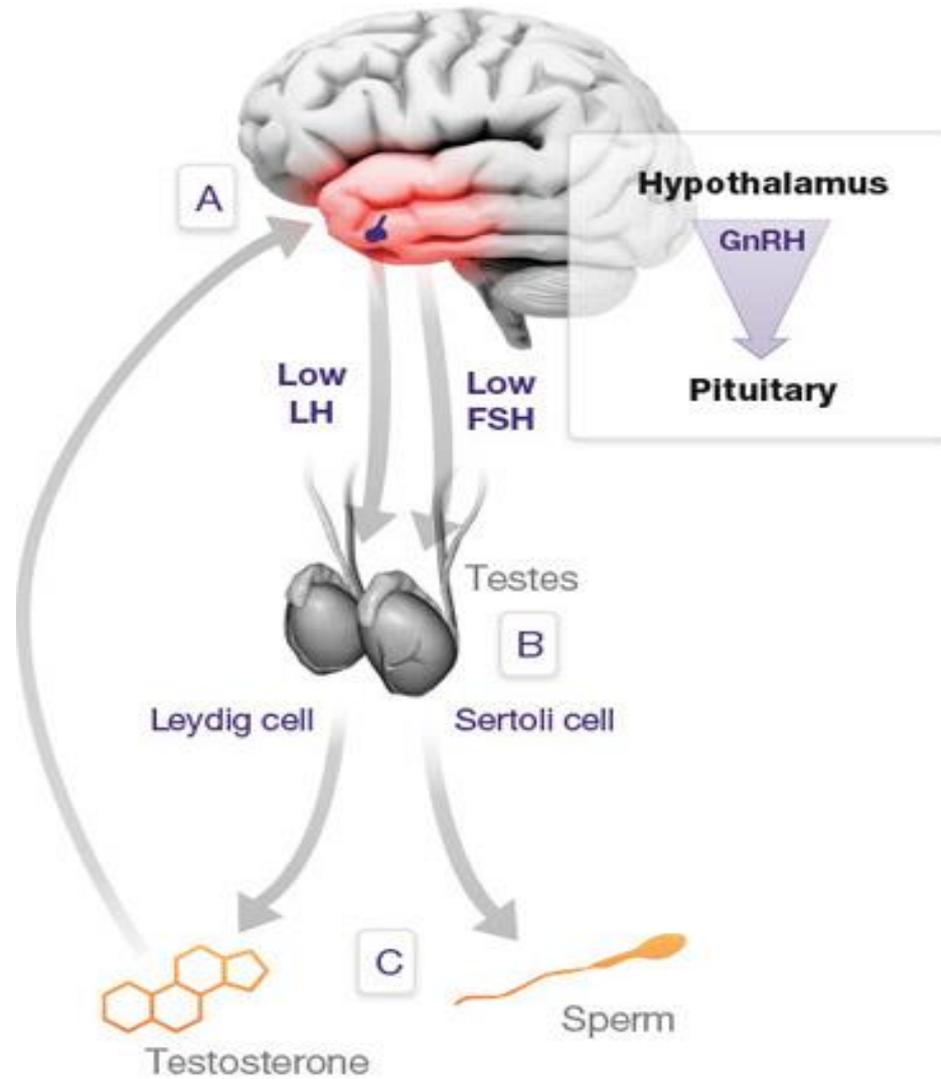


- **sexual developmental history**, including testicular descent, pubertal development, loss of body hair, or decrease in shaving frequency
- **sexual history**, including libido, frequency of intercourse, previous fertility assessments of the man and his partner
- **surgical procedures**, involving the inguinal and scrotal areas
- **chronic severe systemic illness**
- **infections**, such as mumps orchitis, sinopulmonary symptoms, sexually transmitted infections, and genitourinary tract infections (including prostatitis)

- drugs and environmental exposures
 - exposure to toxic chemicals (eg, pesticides)
 - radiation and cytotoxic chemotherapy (current or past),
 - alcohol, tobacco
 - marijuana, opioids,
 - anabolic steroids, androgens, antiandrogens, corticosteroids
 - drugs that cause hyperprolactinemia,



Secondary hypogonadism



- general clinical examination

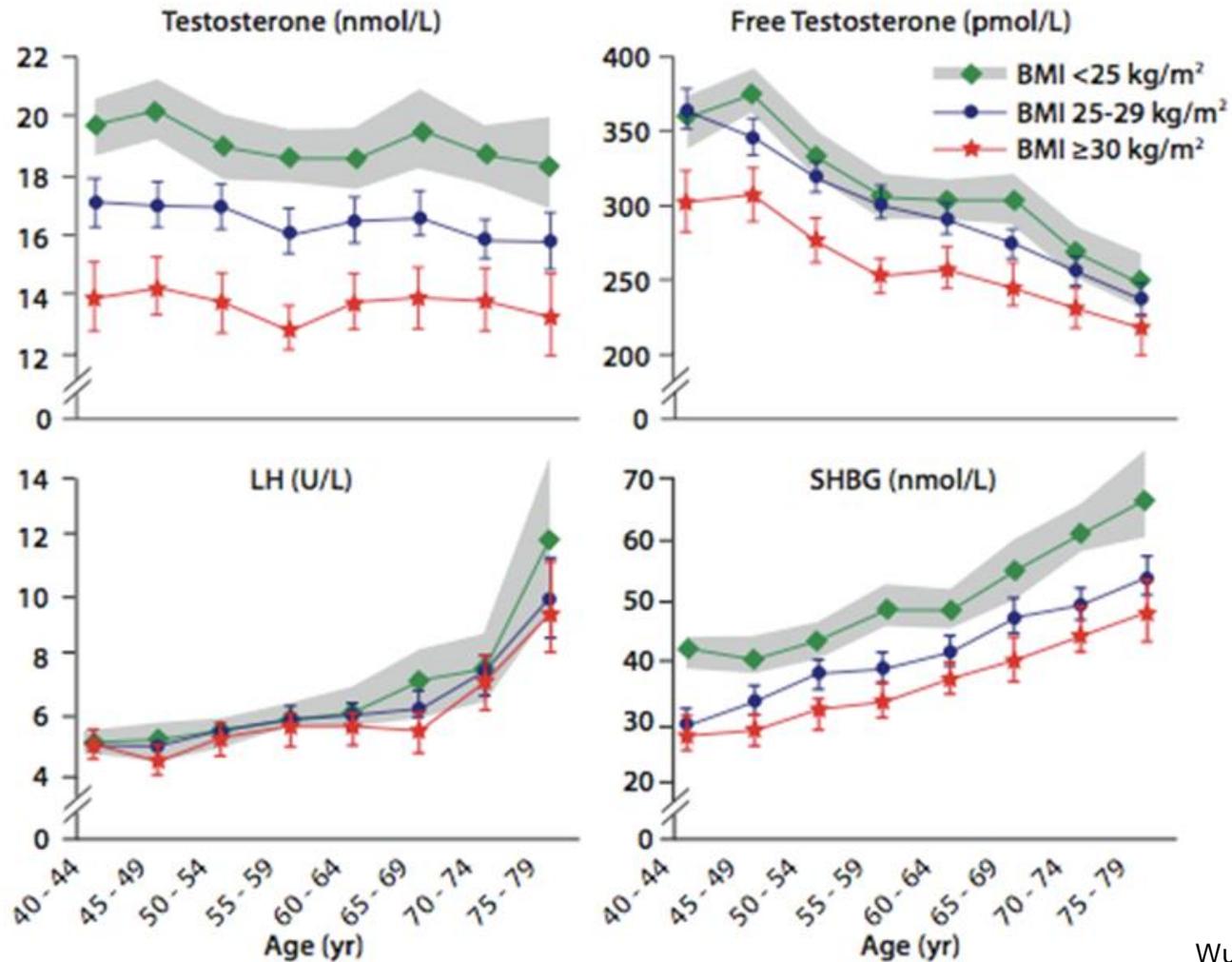
- BMI
- virilisation: normal or abnormal
- gynaecomastia: absent or present

- genital examination

- testis volume and consistency
- epididymis: normal or dilatation
- vas deferens: absent or present
- meatus uretra: normal position?



Age and body mass index (BMI)



Tanner stages genitals (male)

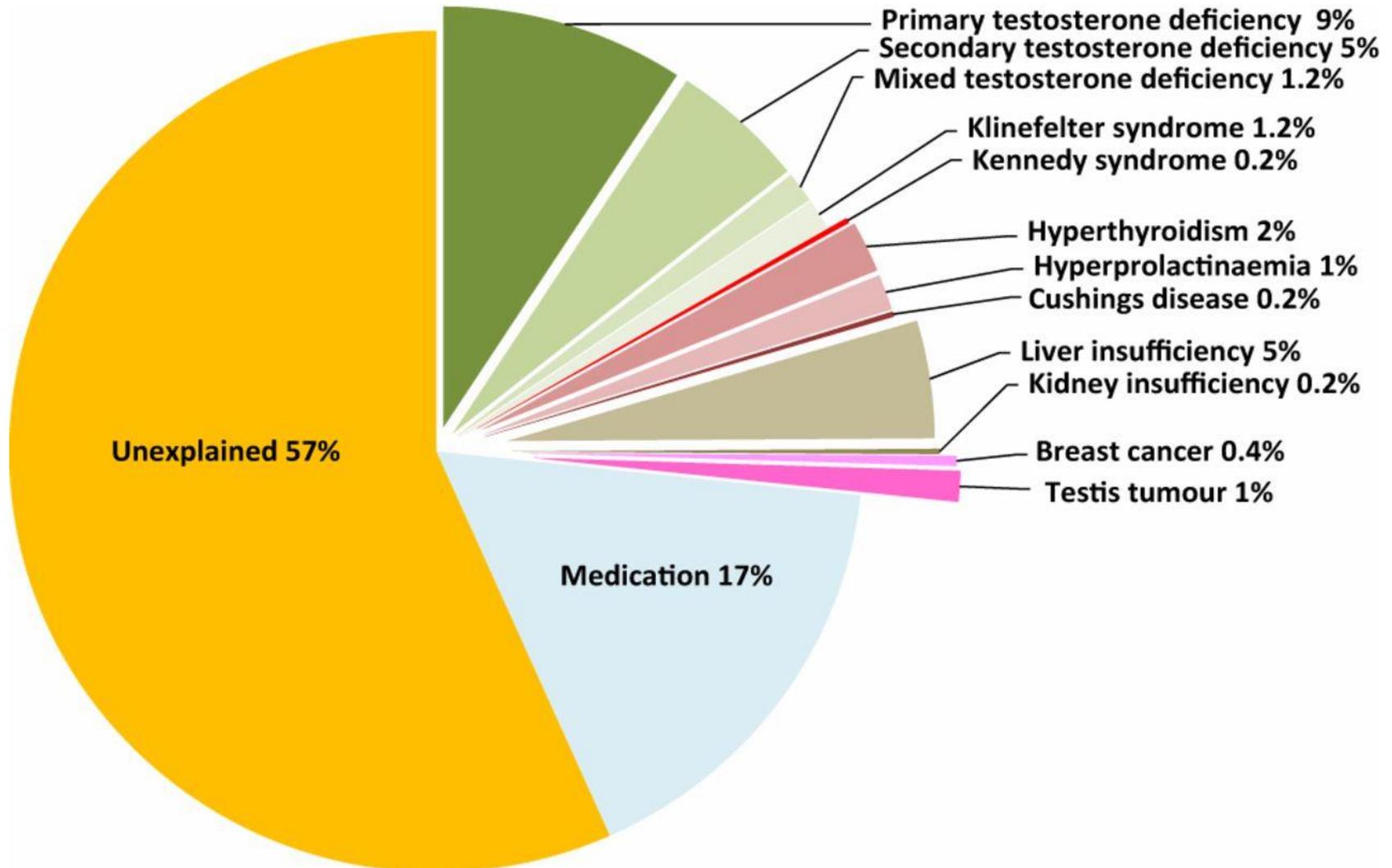
I		3	<2,5
II		4	2,5-3,2
III		10	3,6
IV		16	4,1-4,5
V		25	>4,5



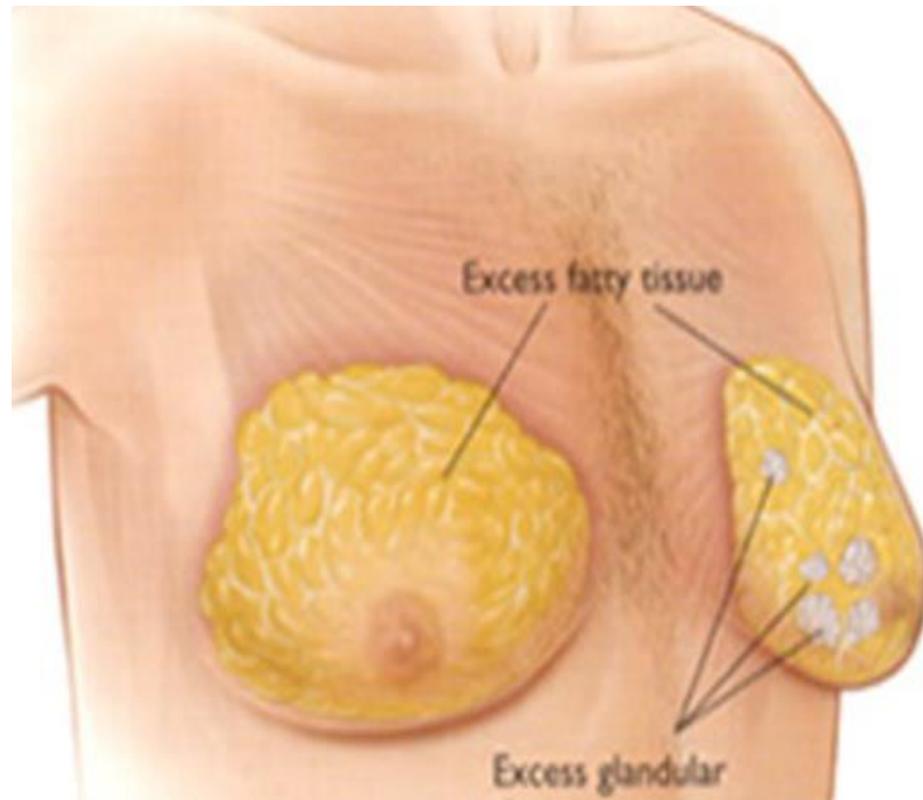
gynaecomastia



Underlying causes of gynaecomastia with adult debut in men with no substance abuse



pseudogynaecomastia

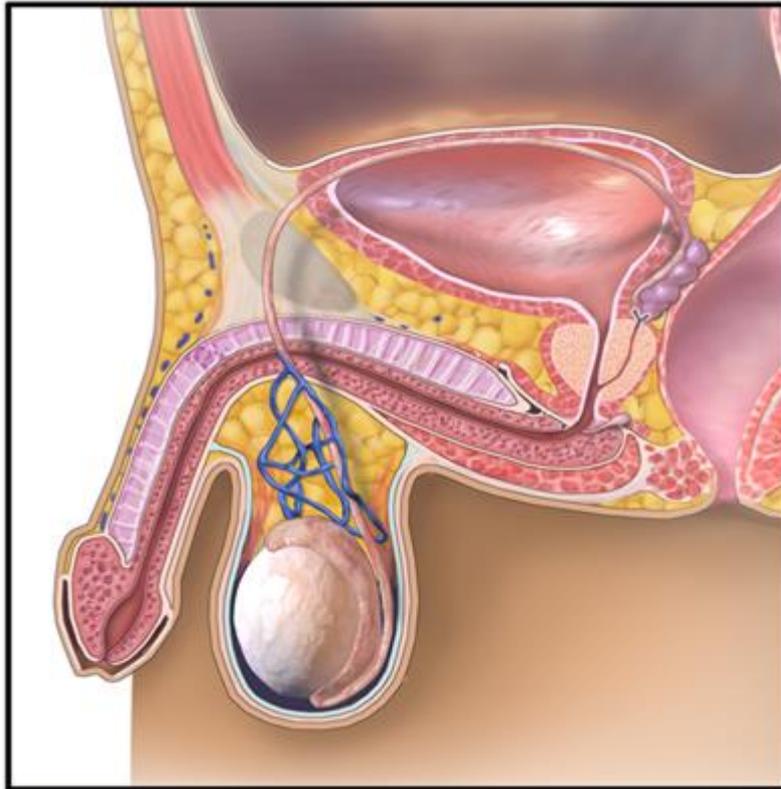




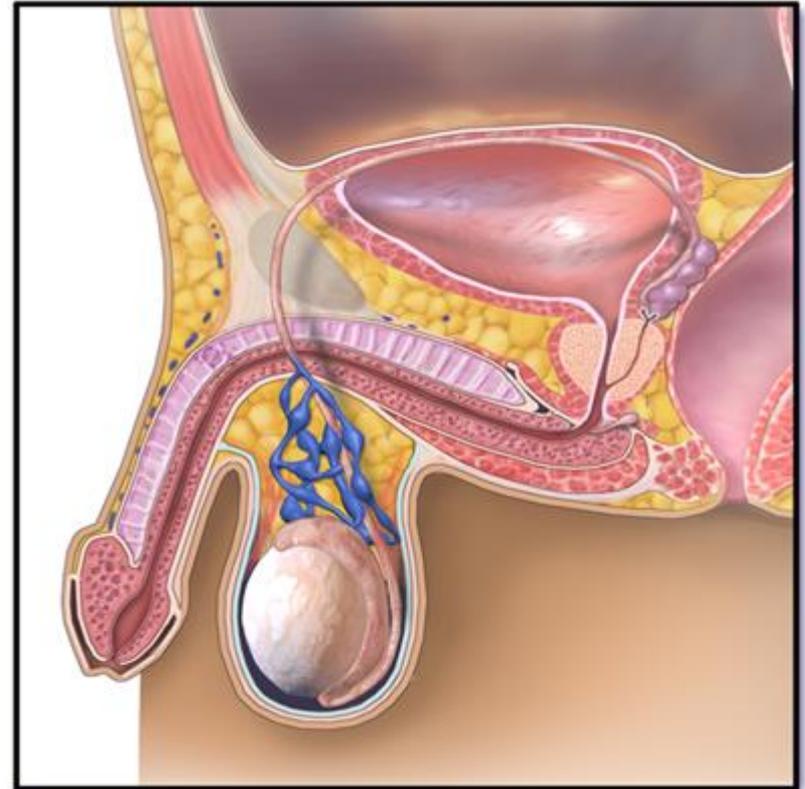
- testicular volume is estimated with caliper (Prader orchidometer)
- normal testicular volume = **>15 cc and 4 cm length** and firm consistency



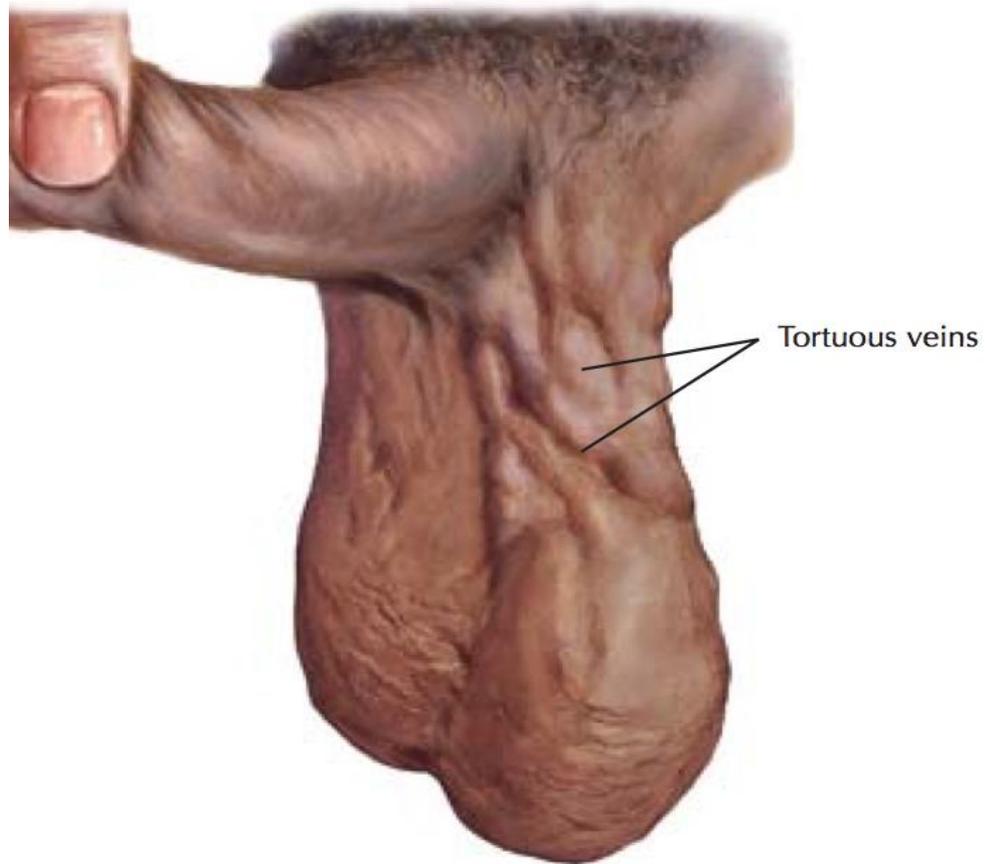
normal



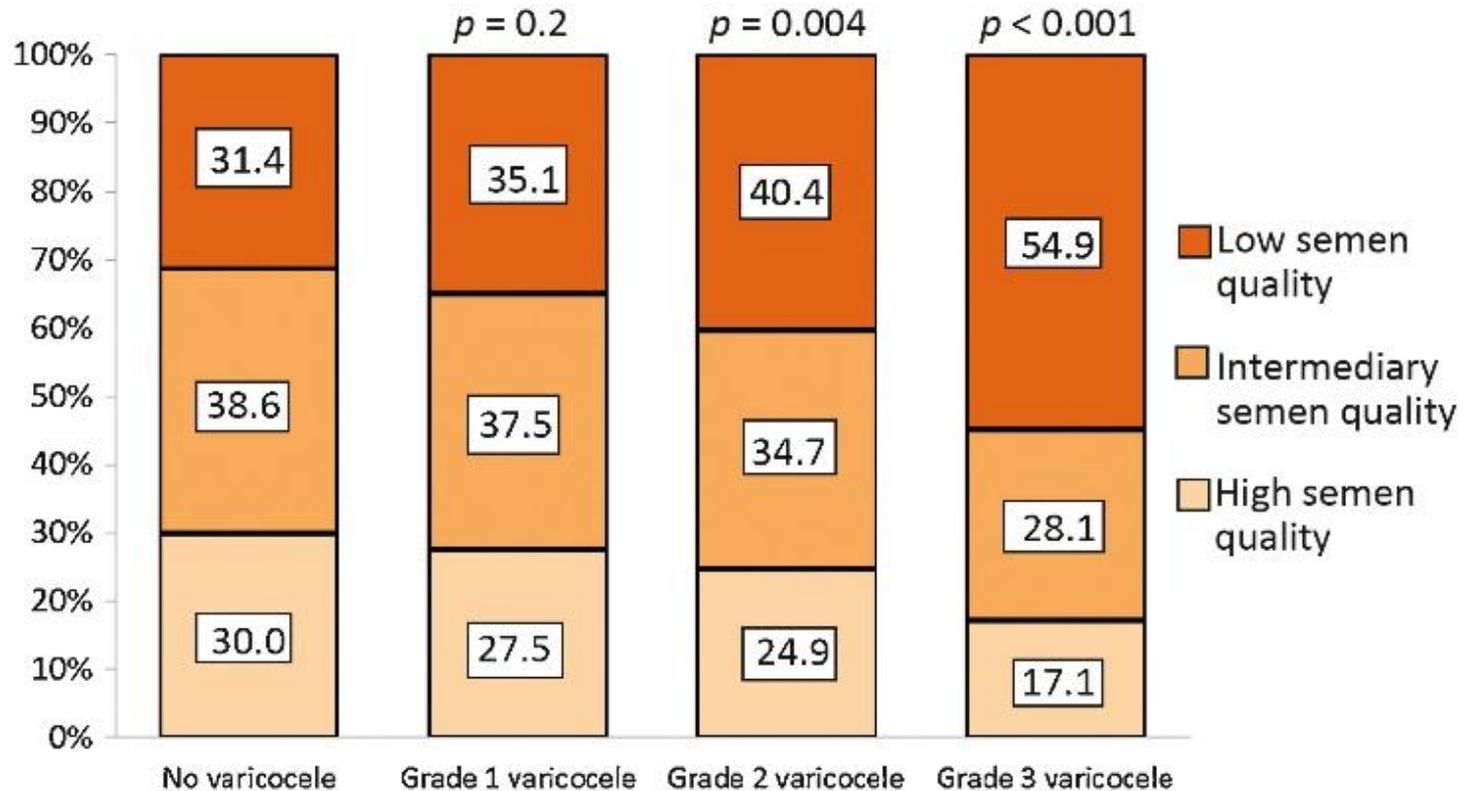
varicocele





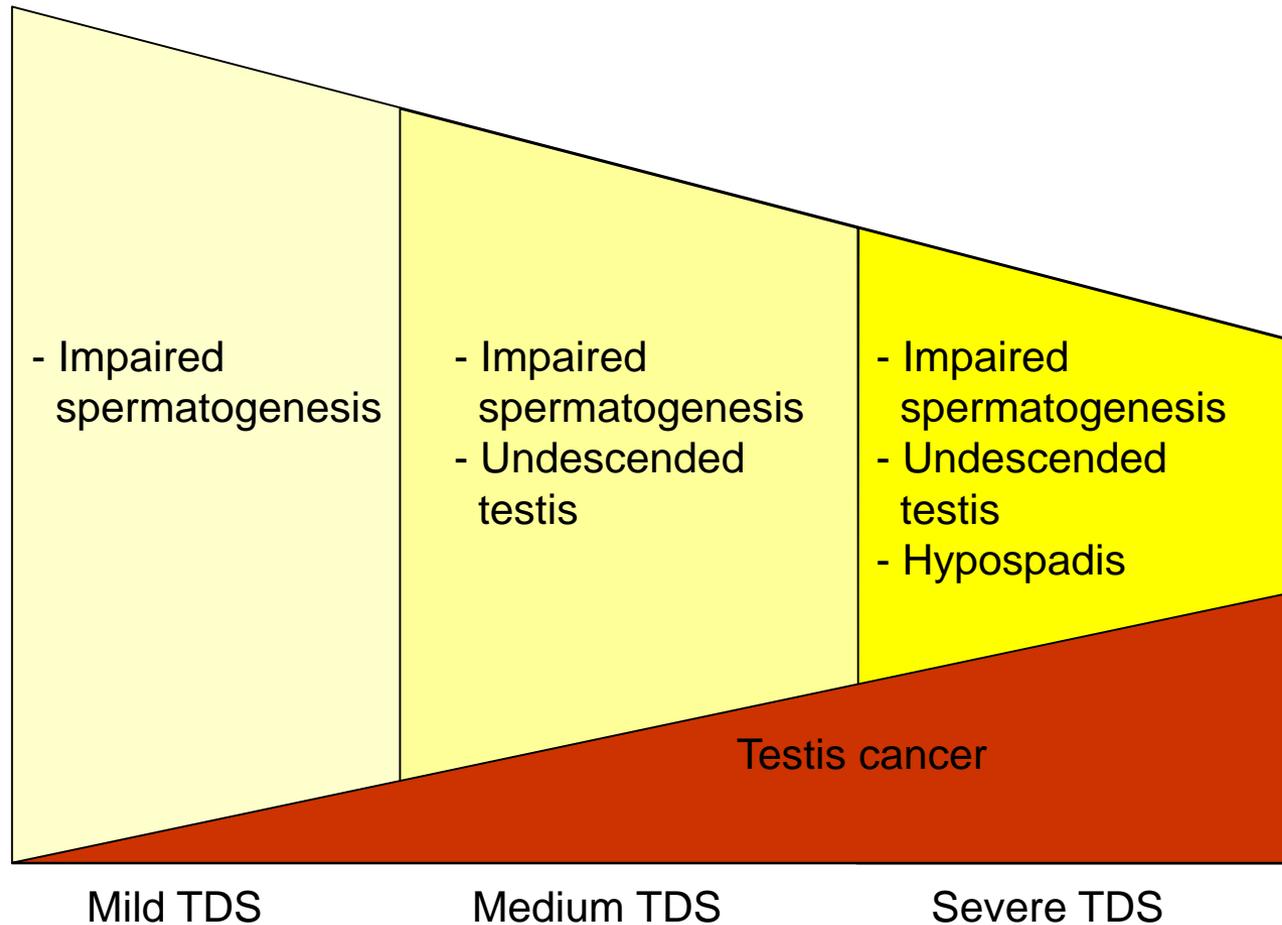


Varicocele grade and sperm quality

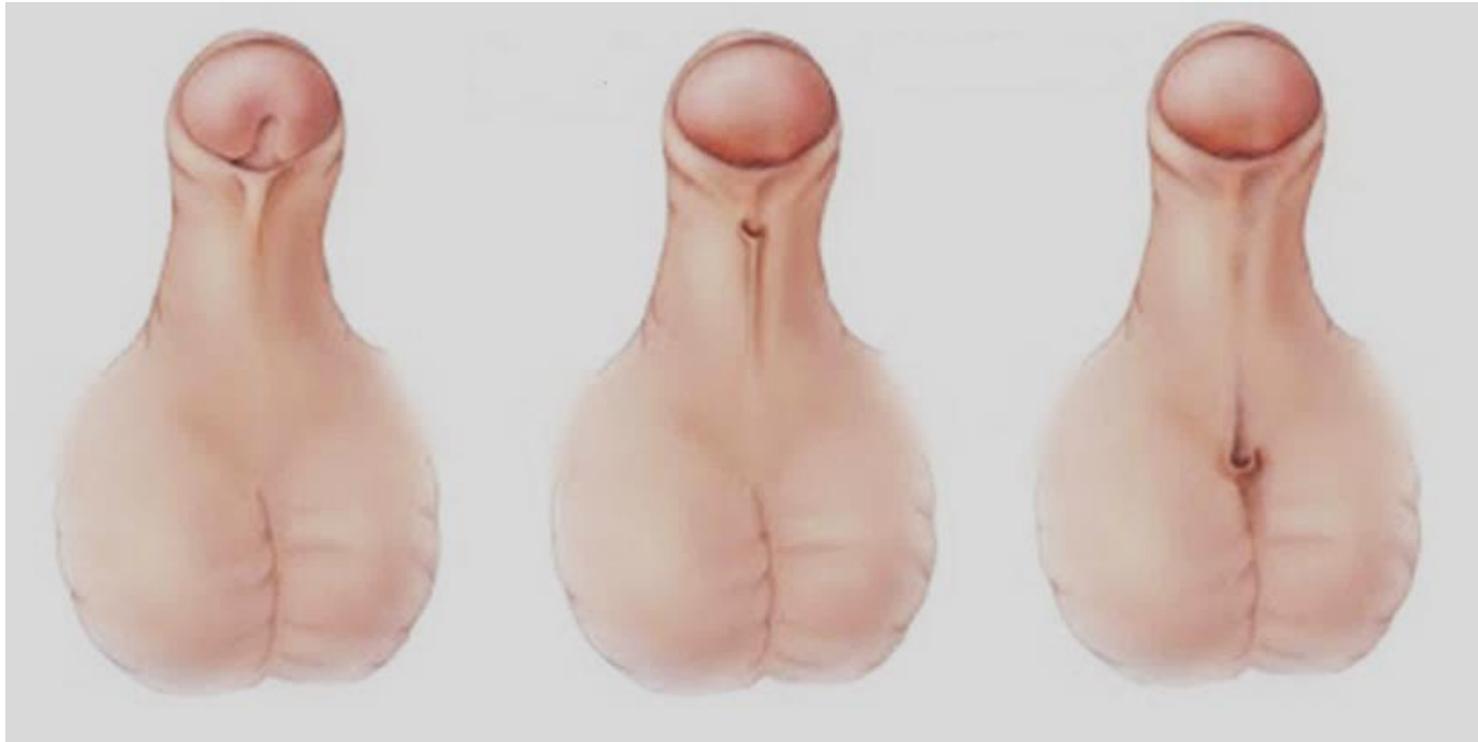


Testicular dysgenesis syndrome

relationship between the relative frequency of various symptoms of the testicular dysgenesis syndrome (TDS)



Types of hypospadias



subcoronal

midshaft

penoscrotal

testicular volume

- determined by palpation or Prader orchidometer

consistency of the testes

- soft, firm, or normal

spermatic cord anatomy

- presence or not of a palpable **varicocele**

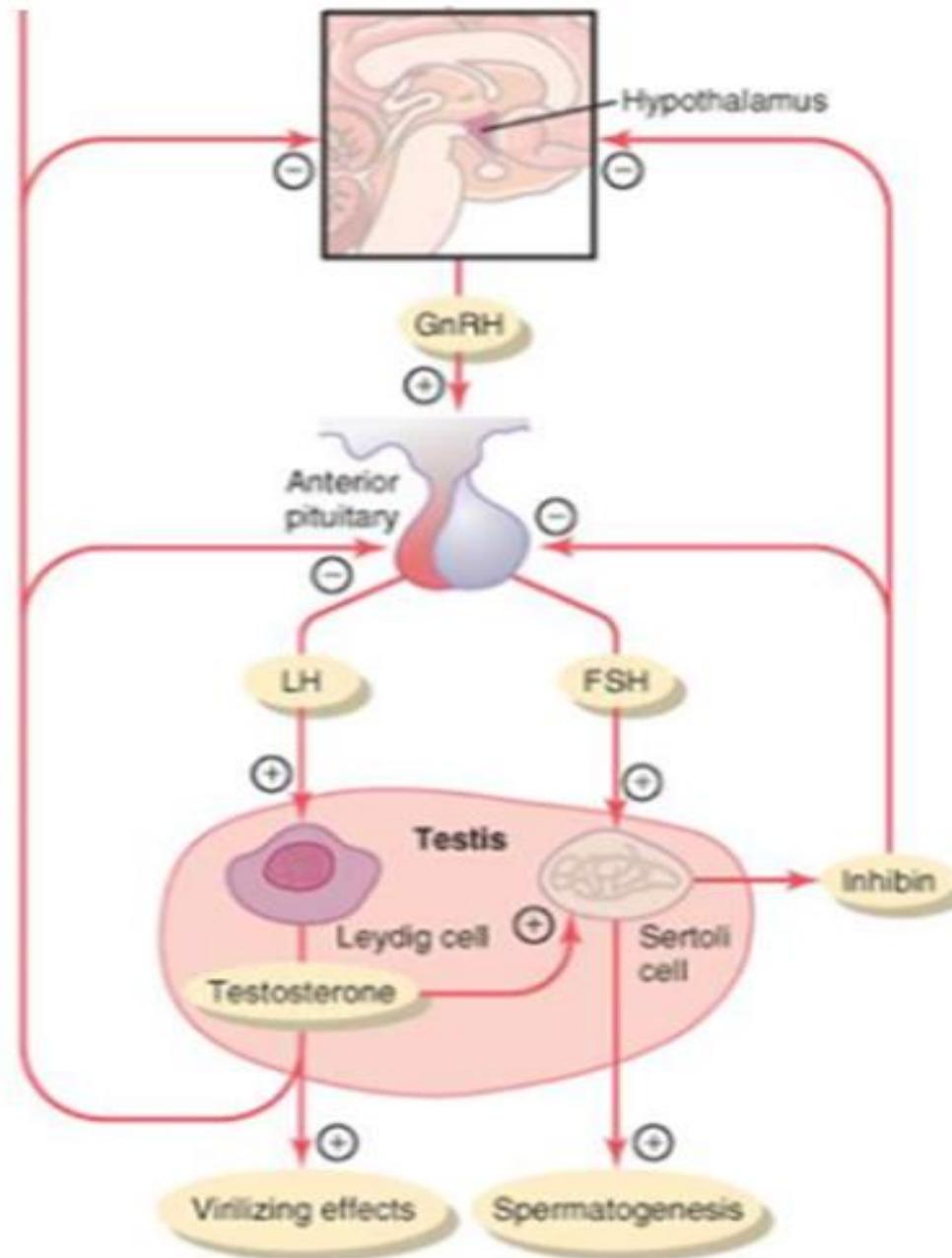
overall **penile** anatomy and the location of the urethral meatus

vas deferens anatomy

- presence or absence, normal calibre, or dilated and firm

epididymal anatomy

- complete or partial in length, full and firm, or normal in consistency



Sertoli cell function

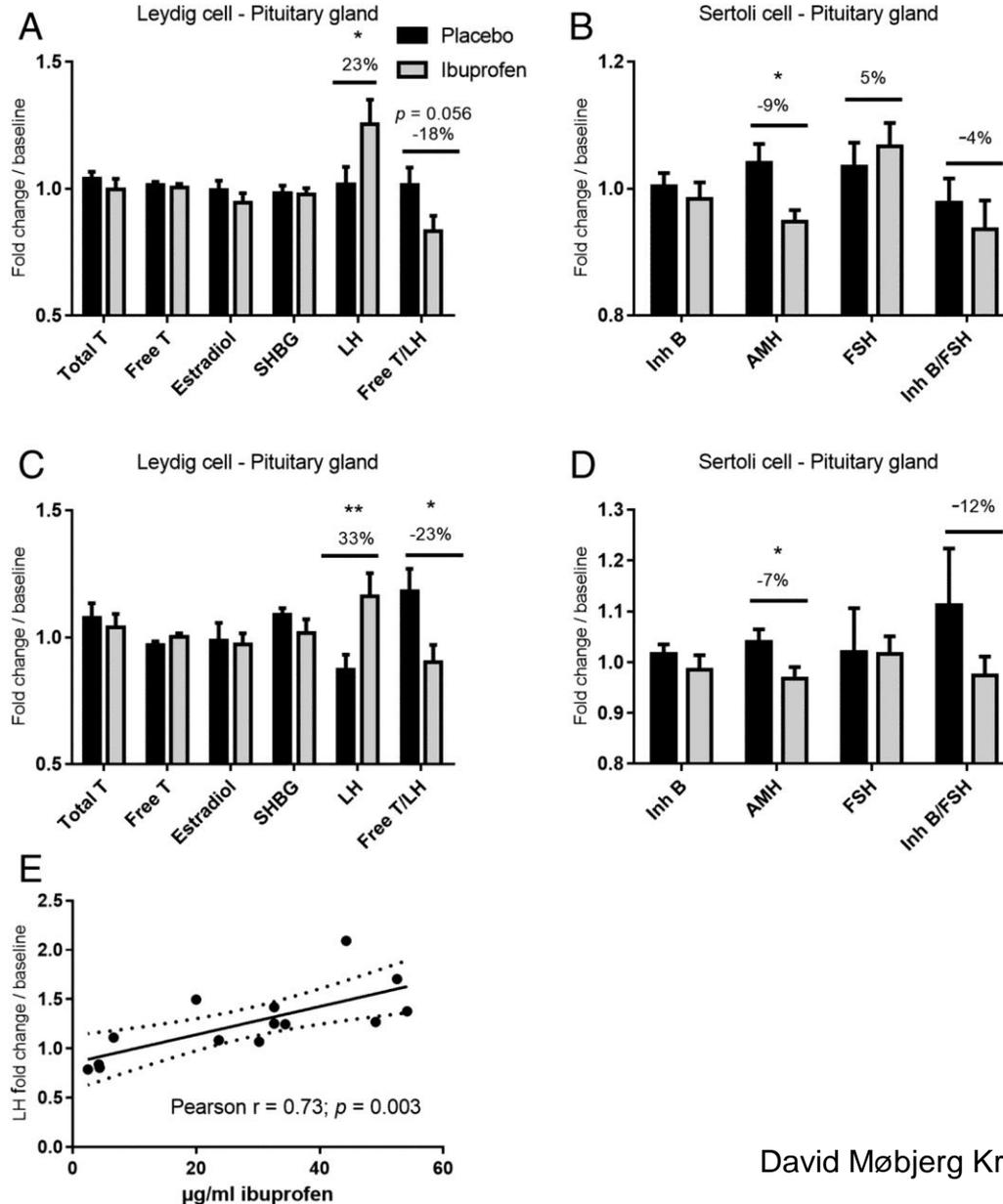
- **FSH**
- (inhibin B)

Leydig cell function

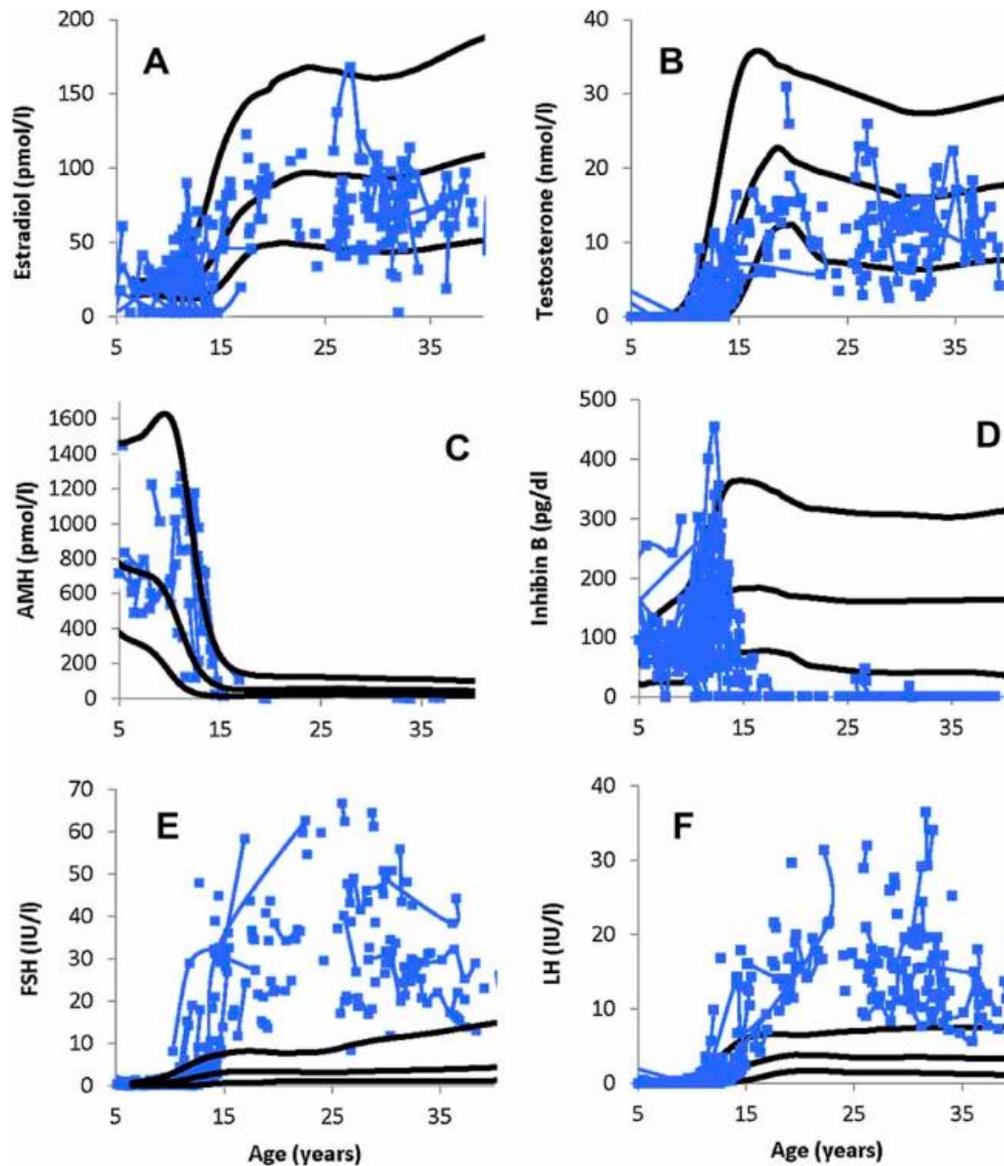
- LH
- testosterone AM
- (SHBG and calculated free testosterone AM)

- (prolactin)

Ibuprofen causes compensated hypogonadism in men



47,XXY Klinefelter syndrome



Reference range FSH for eugonadal men with normal reproductive function is lower than range provided by most manufacturers

Typically serum FSH: **1.3 - 8.4 IU/L**

Obstructive versus Non- obstructive azoospermia?

sperm analysis:

- volume, pH, fructose low if congenital bilateral absence vas deferens

hormonal:

- **FSH (inhibin B): normal**
- no hypogonadism

history:

- complaints of hypgonadism? cryptorchidism?

clinical examination:

- testicular volume often low

sperm analysis:

- volume, PH en fructose normal

hormonal:

- **FSH often (but not always) increased - inhibin B decreased**
- hypogonadism possible
- **if FSH, LH and testosteron low: secondary hypogonadism**

obstructive azoospermia:

- 100% sperm retrieval with TESE

non-obstructive azoospermia:

- 40-50% sperm retrieval with TESE

history clinical examination genetic, hormonal testing and even testicular biopsy not always predictive

history:

- chronic back pain / denies use of alcohol, never surgery
- stopped smoking

clinical evaluation:

- BMI 30
- no gynaecomastia, normale virilisation
- testisvolume bilateral=15 cc, weak consistency
- small cyst right epididymis
- normal vas deferens, meatus uretra and no varicocele

Additional test required?

genetic testing:

- normal karyotype, no Yq-microdeletions

hormonal testing:

- FSH: <1 IU/L (1,2-7)
- LH: 2 U/L
- testosterone 150 ng/dL (300-1000)

Additional test required?

Secondary hypogonadism?

- **no organic hypogonadism** :MRI sella turcica / prolactin - iron normal
- functional hypogonadism ?



functional hypgonadism?

- obesity but also....
- **recent use of opiates, 'protein shakes' and 'fat burners' via internet**

- treat the men and not only the gametes
- counselling of men: role is often underestimated