Endocrine Intervention and monitoring of Gender affirming treatment

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Gender

Phenotype – mainly based on appearance of external Genitalia
Genotype – 46XY, 46XX and variants 46XX – male, 45X0, 47XXY
Juridical Gender
Gender Identity – defined by the individual
What I feel like
Developement – The major events take place in the womb
Embryology

Undifferentiated gonad

T och Anti Müllers Hormone

Ovary
Testis

Female
Male

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Reproductive System

5 weeks
• gonadal ridges
• Mullerian ducts – female
• Wolffian duct – male
Germ cells migrate to gonad
Reproductive System

8 weeks – presence of testosterone
• Genital tubercle enlarges
  • forms penis
• Urethral folds fuse
  • Forms spongy urethra
• Labioscrotal swellings fuse
  • Form scrotum
Sex hormone levels in adult women during the "fertile period"
Hormonal Regulation of the Reproductive System
Steroids can be transformed to active steroid in target cell
Sex Hormones

Testosteron → 5-alfa reduktas → Dihydrotestosteron (DHT)

Aromatas

Progesteron → Östrogen
Testosterone a precursor to oestrogen
Regulation of gonadotropin secretion
Risturante Endocrinologica

Hair, no hair, breasts, no erections, bussom, muscle, deep voice, sex drive

Injections, pills, implants, gels

Testosterone
Estradiol
GnRH
Gestagens

Spirono 5 alpha

S Arver World Rugby Policy Meeting UK 2020
Aim of therapy

• Mimic physiological endocrine environment according to preferred gender
• Create an endocrine stimulation in order to support development of sex hormone dependent target organs
• Counteract and reverse previous sex hormone dependent development
• Minimize medical risks in general and specially with reference to sex hormone therapy.
Treatment Female to Male

- Testosterone
  Injections 1000mg (4mL) i.m. Initiate with 2 injection 4-6 weeks apart. Undecanoate.

- Continue with a dosing interval of 6 – 14 weeks.
  Monitor T-levels at end of dosing interval and adjust levels to < 17nmol/L and > 10 nmol/L, Check for LH suppression and patients subjective experience. Dose adjustment change dosing interval and/or given dose.

- Testosterone enanthate, cypionate 100mg/wk
- Transdermal treatment – gel 5- 10 mg T/dygn
- No Indication for anabolic steroids
Treatment Female to Male

- Testosterone
  Transdermal – gel 5- 10 mg T/24h
  = application of 50 – 100 mg. Application to large skin area on arms, abdomen, shoulders or thigh
  Monitor peak levels 2-4 h after gel application, nadir measure prior to gel application.
- First assessment possible after ca 2-4 weeek of continuous therapy.
- Check LH and symptoms
Treatment Female to Male

• Effects
Termination of menstruations rapid onset
Increased muscle mass, decreased fat mass 2-3 months a change that continuous and depends on physical activity
Voice lowering starts within 6 months continuous for 12 months (approx)

Body and facial hair gradually often noticeable within 4 – 6 weeks
Treatment Female to Male

Problems

1. Acne – reduce the dose
   common acne treatment
   ev, dermatological consultation
2. Continued menstrual bleeding; Gestagen or GnRH analogues, increased T dosing
3. Hb excessiv increase erythrocytosis
   Sleep apnéa ?
4. Injections increase intervall reduce dose (3mL)
   Transdermal treatment – reduce dosing
5. Psychological effects – very uncommon with problems
6. Long term risks – CVD
7. Uterus ? Ovaries ?
Male to Female

Estrogen

**First choice**

**Transdermal gel or patches**

Divigel  0.5-3 mg/day Start dose 1 mg/24h
Patches  50 – 200 microgram/24h

**Second choice**

Estrogen Valerate or Cypionate (injections)  5-30 mgIM/2 wk
Estradiolpolyphosphate (Estradurin) 80 mg/mL  i.m.  80-120 mg/2-4  wk

**Third choice**

Oral estrogen or synthetic analogues
Progynon 2-6 mg/day variable up-take and response

Check

E2 levels and pharmacodynamic effects
Male to Female

Anti-androgens (gestagens)
Cyproterone acetate  25 – 50 mg/day
Medroxyprogesterone  5 mg/day
Spironolactone  100 - 300 mg/day
GnRH analogue  11,25 mg/12 wk

Reduce secondary hair growth
Supress testosterone production.
Initiate in subjects with strong sec hair growth

Intitial therapy and adjunct for testicular supression until Surgery.

Check S-testosterone levels (1-3 nmol/L), titrate lowest dose.
   Liver test
Testosterone may have global CNS effects
These are data from t-therapy in cis females

* $P \leq 0.01$ vs placebo
† $P \leq 0.001$ vs placebo

2. Mean change from baseline in Profile of Female Sexual Function domain scores by treatment group at week 24 (intent-to-treat population)
Follow-up Safety controls

• Cardiovascular risk assessment i.e. Hypertension, lipids, glucose metabolism genetic background and life style

• Bone
  DEXA or other Bone assessment at baseline and + 1 year. Further control based on actual risk situation

• Liver

• Prolactine

• PSA (they still have a prostate)
Risk Scenarios

• **Transwomen**
  Thromboembolic disease
  Prolactinoma, Breast Cancer Cholelithiasis
  Hypertriglyceridemi
  Coronary artery and Cerebrovascular disease

• **Transmen**
  Erythrocytos
  Breast and Uterine cancer
  Hypertension
  Coronary artery and Cerebrovascular disease
Thanks for patient attention