Sexual Dysfunction and HIV

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Outline
- Sexual problems common in HIV
- Both men and women
- Causes
- Management
- Cases

HIV Management
- Complex
- CD4 lymphocyte counts
- Viral loads
- Drug adherence
- Drug interactions
- Drug resistance
- Future drug options

Psychological Issues
Initial Diagnosis
- Grief reaction
- Anger
- Denial
- Fear
- Isolation
- Depression
- Resolution

Coping Mechanisms
- Substance Abuse
- Hypersexual behaviour
- Withdrawal
- Asexual phase
- Fear of transmission
- Chronic depression

Physical Appearance
- Pre-HAART
  - Progression to AIDS
  - HIV wasting
- Post-HAART
  - Lipodystrophy
  - Facial lipeatrophy
  - Central fat accumulation
  - Metabolic syndrome
Women with Sexual Dysfunction

- National Sexual Attitudes and Lifestyles Survey UK 2000
  - 11,161 surveyed age 16-44
  - 54% women sexual problem 1 month/last 12
  - 16% problems 6 months or more
- NATSAL 3
  - 15,162 surveyed age 16-74
  - 51% women sexual problem lasting 3 months/last 12 months
  - 11% women distressed/worried about sex life

Women with HIV

- US studies
  - Brown et al (1995) persistent decreased sexual desire in 60% of women with HIV
  - Bova et al (2003) 101 HIV +ve women better sexual function associated with less HIV symptoms, better mental health, and never IDU

- Canadian Study
  - Hankins et al (1997) 68% sexually active since diagnosis association with better CD4

Women with HIV

- UK Study Lambert et al (2005)
  - 82 women
  - 75% Black African
  - Mean time from diagnosis 68 months (4-191)
  - 72% returned to sexual activity
  - >50% impaired sexual enjoyment
  - High rates sexual abuse
  - ARV and time on ARV no significant effect

Women with HIV

- Bell, Richardson et al (2006)
  - 34 women
  - 30 African descent
  - 47% not satisfied with sex over last 12 months
  - 33% lack of desire
  - Fear of transmission, fear of disclosure
  - Difficulty negotiating condom usage with positive partner

Women with HIV

- Luzi et al (2009) “Body image is a major determinant of sexual function in stable HIV-infected women” Modena
  - Female Sexual Function Index
  - 161 mean age 42, mean CD4 508
  - 32% FSD associated with poor body image
  - No association with sex hormones, CDC stage, CD4 count, VL or cumulative exposure to HAART
  - Self-perceived abdominal fat accumulation lower FSFI scores
Men and Sexual Dysfunction

- Massachusetts Male Aging Study (1989)
  - 1290 men age 40-70 years
  - Complete impotence 9.6%, moderate 25.2%, mild 17.2%, 52% some difficulty
  - 5% 40yo total impotence, 15% 70yo
  - Adjusted for age impotence increased with diabetes, hypertension, heart disease and depression

Prevalence of ED in men with and without HIV

  - Stratified by age range <30, 30-40, 40-50, 50-60
  - ED mild, moderate, severe
  - All age ranges had at least 50% mild ED in HIV positive, compared to 10% in HIV negative
  - Proportion of severe increased with increased age

NATSAL 3

- 15,162 men and women surveyed age 16-74
- 42% of men one or more sexual difficulty >3months/last year
- 10% of men distressed or worried about sex life

Erectile Mechanism

- Adequate sexual stimulus
- Integration in nuclei thalamus and hypothalamus
- Parasympathetic stimulation and sympathetic inhibition
- Nitric Oxide release relaxes arteriolar and sinusoidal smooth muscle
- Arterial diversion blood to sinusoids
- Inhibition venous drainage

Men with HIV

  - 200 HIV+ ve mild symptoms 200 HIV- ve MSM
  - Significant higher dysfunction in HIV+ ve
- Catalan et al (1992)
  - 37HIV+ ve 36 HIV- ve haemophiliacs
- Tindall et al (1994)
  - 149 advanced HIV 57% AIDS, 43% ARC
  - 55% difficulty achieving erection, ejaculating or both
  - Those with AIDS more likely to report sexual dysfunction (62% vs 42%; P<0.02)

Men with HIV

- Richardson et al. (2006) St Mary’s London
  - 190 men over 18 month period attending sexual dysfunction clinic for HIV +ve men
  - Median age 45, mostly white MSM, 165 HAART
  - 176 ED, 68 low desire, 5 PE, 25 retarded ejaculation
  - 111 anxiety/depression, 44 lipodystrophy, 59 peripheral neuropathy, 140 non-injecting recreational drugs, 37 Hep B or C coinfection
Men with HIV

- Richardson et al. (2006)
  - Median testosterone 19 in normal range
  - Median oestradiol 197.5 raised? aromatization of testosterone to oestradiol in lipodystrophic tissue
  - Significant association between peripheral neuropathy and retarded ejaculation 18/25 with neuropathy also on antidepressants
  - No association with PI usage or time on HAART

Causes of Male Sexual Dysfunction

- Vascular
  - Atherosclerosis, Diabetes, Smoking, Hyperlipidaemia
- Neurological
  - Peripheral neuropathy NRTI
  - Antidepressants, antihypertensives
  - CNS dysfunction, AIDS dementia, Toxoplasmosis, Cryptococcal meningitis, PML
- Endocrine
  - Androgen deficiency, testicular failure, Hypothalamic/pituitary disease, Prolactin excess, Raised oestrogen
  - Inhibition of androgen, Ketoconazole, Megestrol, Cimetidine
  - Thyroid Disease
- Psychological
  - Depression, Performance anxiety

Hypogonadism

- HIV +ve increased SHBG
- Decreased free testosterone, dihydrotestosterone, androstenedione, DHEA
- Reductions correlate with lower CD4
- Adrenal androgens reduced
- Reduced gonadotropin from Pituitary
- Direct testicular effects

Treatment of Hypogonadism

- Testosterone depot injections
- Testosterone implants
- Trandermal testosterone
- Oral agents not used to avoid first pass effect of liver
- Exclude prostate cancer first

Testosterone Supplementation

  - 112 men advanced HIV (mean CD4 123), low testosterone, erectile dysfunction, decreased libido
  - 12 weeks open label
  - 91% improved @8 weeks
  - Randomisation to 6 weeks testosterone/placebo
  - Response maintained 78% testosterone vs 13% placebo (P<0.001)

Erectile Dysfunction with normal Testosterone

- Intra-cavernosal injections
  - Alprostadil (Caverject)
- Intra-urethral pellets
  - Alprostadil (Muse)
- Vacuum pumps
- Oral agents Phosphodiesterase inhibitors
  - Sildenafil (Viagra)
  - Tadalafil (Cialis)
  - Vardenafil (Levitra)
  - Avanafil (Spedra)
**Interactions of Phosphodiesterase Inhibitors**

- Nitrates
  - Glyceryl trinitrate, isosorbide mono or dinitrate
  - Chest pain after taking Sildenafil/Vardenafil no nitrates 24 hours, Tadalafil no nitrates 48 hours
  - Recreational amyl nitrate (Poppers)
- Cytochrome P450 inhibitors
  - Protease inhibitors especially Ritonavir use very small dose
  - Cimetidine, Ketoconazole, Erythromycin
- Alpha blockers

**Effect of other drugs**

- Antiretrovirals
  - Protease inhibitors exacerbate
  - Atazanavir may improve
  - NNRTI improve
  - Nevirapine may increase oestradiol
- Antidepressants
  - SSRI cause erectile failure, and ejaculatory failure

**Experience at Sandyford HIV Sexual Dysfunction Clinic**

- Retrospective review of 2009
  - 18 patients attended, 5 twice and 1 three times
  - No females attended 2 made appointments DNA
  - Almost all have depression and are taking SSRI
  - Poor acceptance of HIV diagnosis/ fear of disclosure
  - Most respond to PDE-5
  - NHS provision if causing significant distress

**Referral to Sexual Problem Services**

- CD4 nadir
- Antiretroviral regime current and previous
- Other medications
- Morning Testosterone, SHBG, LH/FSH, Prolactin
- FBC, LFT, Lipids, Glucose

**Conclusions**

- ED and reduced libido common with HIV
- Depression and anxiety almost always present
- Hypogonadism less common than pre-HAART era
- Lipodystrophy has impact on sexuality in both men and women
- PDE-5 safe and effective at correct dosage

**Conclusions**

- As HIV survival improves we need to look at overall quality of life
- A healthy sex life improves self esteem
- Asking about sexual function should be part of routine clinical review