Journal Review


The relationship between yeast colonisation, symptoms and antifungal self-medication remains poorly understood. Previous studies have involved pregnant women or women using hormonal contraception, and many have been underpowered.

This American cohort study aimed to determine the prevalence of yeast colonisation over a 1-year period in 18–30-year-old, sexually active, non-pregnant women. A total of 1248 women were recruited and more than 80% of the scheduled visits at baseline, 4, 8 and 12 months were attended. At each visit a questionnaire was used to enquire about symptoms, antifungal use, sexual/personal behaviour and contraception in the preceding 4 months. A swab of vaginal fluid was transferred to candida-selective culture media.

Some 70% of women were colonised by vaginal yeast at one or more visits, but only 4% were colonised at all four visits. Factors associated with yeast colonisation included marital status (odds ratio [OR] 2.5, 95 CI 1.1–5.9), depot medroxyprogesterone acetate (DMPA) use (OR 1.4, 95 CI 1.1–1.7), sexual activity (in the 4 days before visits [OR 1.9, 95 CI 1.1–3.2] and 8 days) and concurrent colonisation with lactobacilli and group B streptococcus. Symptoms of pruritus and vulvovaginal burning were associated with yeast colonisation but antifungal use was not.

The results support the concept that Candida albicans exists as part of the normal vaginal flora in many healthy asymptomatic women, and that host factors influence the development of symptoms. The authors suggest that the lack of an association with antifungal use casts doubt on the reliability of self-diagnosis and self-treatment of thrush symptoms. However, the study was limited by possible recall bias and the fact that most women were not examined at the time they had symptoms or used antifungal treatment.

Moreover, the study population was relatively young (80% under 25 years) and from similar socioeconomic backgrounds, so may not be representative of the wider female population.

The finding of an association among DMPA conflicts with previous studies showing a protective effect against yeast colonisation. Further research is therefore required to determine an association between yeast colonisation and injectable progestogen-only contraceptives.

Reviewed by Louise Melvin, MBChB, MRCOG, DFFP, Clinical Research Fellow, Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh, Edinburgh, UK


This is a comprehensive review of the progress made so far in the attempts to develop a credible male hormonal contraceptive. The principle behind male hormonal contraception is that it is possible to arrest sperm production by administering exogenous sex steroids that act via the hypothalamo-pituitary axis to suppress luteinising hormone and follicle-stimulating hormone levels. This approach also decreases production of testosterone so 'add-back' androgens are required to maintain physiological levels.

Grimes et al. conducted a review of only the randomised controlled male hormonal contraceptive trials that used azoospermia as their outcome. They justified their exclusion of studies reporting oligozoospermia as an outcome by two observations. First, that it will be difficult to achieve azoospermia for contraceptive efficacy. However, it has previously been established that severe oligozoospermia (<1 million/ml) would provide efficacy comparable with existing methods of contraception. Their second reason is more robust, stating that the definitions of oligozoospermia varied greatly between trials and made exact comparisons difficult.

There are many different regimens that have been tested as potential male hormonal contraceptives including testosterone alone, and testosterone in conjunction with progesterogens or GnRH antagonists. Testosterone is currently available as short- and long-acting injectables, slow-release subcutaneous pellets, transdermal patches, cutaneous gel, oral preparations and a baccal gel. Table 1 summarises the characteristics of the regimens currently available. The regimens are therefore a very wide range of potential combinations of steroids and delivery methods. They concluded that the abilities of the various regimens analysed varied hugely from 0–100% in the proportion of men who attain azoospermia and that the trials periods used also demonstrated a wide range from 8 weeks to 1 year. The most promising combinations are all progestogen and testosterone regimens but there is not currently any regimen ready for clinical use. They also comment on some of the problems that were performed in this field to date. Many of the trials are underpowered, resulting in fragmented data. There are large numbers of different regimens under investigation making direct comparisons difficult. There are obvious needs for large-scale trials with sufficient participants to be able to confidently assess efficacy. These are currently ongoing; there is a Phase II study in progress in China and a large-scale commercial study underway in Europe.

Reviewed by Melanie Walton, MB ChB, MRCOG, Clinical Research Fellow in Male Hormonal Contraception, Contraceptive Development Network, Centre for Reproductive Biology, University of Edinburgh, Edinburgh, UK


There is no doubt about the attractiveness of combined hormonal contraceptives administered in such a way as to avoid hepatic first-pass metabolism and variable efficacy in the presence of obesity. Further, no long-term studies have been performed in postmenopausal women. The limited published data, particularly in older women, has yet another HRT myth been laid to rest? The evidence is certainly unfavourable and is likely to discourage the use of systemic HRT primarily for urinary symptoms.

Reviewed by Colin Duncan, MD, MRCOG, Consultant Gynaecologist, Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh, Edinburgh, UK


It has been assumed until recently that hormone replacement therapy (HRT) improves urinary symptoms, an assumption based largely on replacement therapy (HRT) improves urinary symptoms, particularly in older women. Has yet another HRT myth been laid to rest? The evidence is certainly unfavourable and is likely to discourage the use of systemic HRT primarily for urinary symptoms.

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