

UPDATES IN UROLOGY

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ISSUE-6



President's Foreword,

Dear esteemed colleagues and friends,

On behalf of the members of the Singapore Urological Association, I bring you Season's greetings. At the start of year 2018, I am pleased to present to you yet another edition of "Updates in Urology" publication. Our endeavor has always been to not only share the latest advances in Urology but also highlight the mundane issues a clinician has to encounter, one of which is "medical misinformation" in the times of information overload. That is why we have chosen to focus our current edition on infrequently discussed topics such as 'fake' news, alternative therapies and myths, which are commonly

encountered in our practices. This publication will discuss medical misinformation and fake news in general, and also places a spotlight on common myths surrounding men's health issues and its treatment.

I sincerely hope you will find the articles interesting and worthwhile reading. We are always happy to receive your suggestions on what to include in your areas of interest in Urology, and how to make this publication better. Finally, I would like to take this opportunity to wish all of you a very happy, healthy and fruitful New Year.

With warm regards,

Dr. Edmund Chiong

Senior Consultant, Department of Urology, National University Hospital



Editor's Foreword,

Dear Colleagues and Friends,

Fake News is the newest buzzword for 2017. It does not only involve politics but is also prevalent in healthcare. It is increasingly commonplace to encounter patients seeking our view on the latest food fad or miracle "cure" they see on social media or their family whatsapp group. In this issue, we focus on how to help our patients discern medical facts from misinformation.

We start with learning on how to help our patients spot medical misinformation on popular media.

Complimentary and Alternative Medicines (CAM) are very popular with the local populace. The second article checks out the truth from the hype in the common CAM in Men's Health.

Lastly, we sift out the facts from the popular myths in male sexual and fertility disorders.

I hope that the articles in this issue will help you educate your patients as they face the rising tide of medical misinformation in the popular media.

With warm regards,

Dr. Lincoln Tan

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COMPLIMENTARY & ALTERNATIVE MEDICINE IN MEN'S HEALTH

The use of complementary and alternative medicine (CAM) in the management of various men's health conditions is increasing worldwide. It is important for us as healthcare practitioners to be aware of the available agents and evidence supporting their efficacy in order to help guide our patients.

Benign Prostatic Hyperplasia (BPH) / Lower Urinary Tract Symptoms (LUTS)

Serona repens or saw palmetto is the most widely used CAM for BPH/LUTS worldwide, with more than 100 varieties of its extract available. It is derived from the dark berries of the African dwarf palm plant and is rich in fatty acids and phytosterols. It has known anti-androgenic, anti-inflammatory and pro-apoptotic properties.

S repens as monotherapy. The latest Cochrane systematic review in 2012 (Tacklind et al.) included two new high quality trials supported by the United States National Institute of Health. It concluded that *S repens* monotherapy, at even double or triple dose, is not superior to placebo in improving urinary flow measures or prostate size in men with BPH/LUTS.



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S repens as combination therapy. Since the 2012 Cochrane review, investigators have directed their focus on the therapeutic efficacy of *S repens* in combinations with other agents.

S repens and tamsulosin. Several recent trials using *S repens* and tamsulosin as combination therapy have mixed results. A Korean study (Ryu et al. 2015) showed combination therapy to be more effective in reducing storage symptoms of patients while two earlier trials showed no additional benefit with combination therapy compared to *S repens* or tamsulosin alone.

S repens, lycopene and selenium (Profluss®). The combination has potential synergistic effects borne out in RCTs. In 2014, Morgia et al. found combination SeR-Ly-Se with tamsulosin achieve greater improvement in symptom relief and flow rates compared to either SeR-Ly-Se or tamsulosin alone.

Other agents. Several other therapeutic agents including pygeum africanum, secale cereale and hypoxis rooperi have been evaluated for efficacy in treating BPH/LUTS. The studies included in the systematic reviews were limited by short duration, small patient numbers, gaps in reported outcome and variance in agent purity/preparation and **hence cannot be recommended as effective therapy.**

Prostate Cancer

CAM usage is highly prevalent amongst prostate cancer patients in an attempt to prevent prostate cancer, shrink early prostate cancer, control recurrent prostate cancer and to alleviate symptoms cause by prostate cancer or its treatment. Some of the more popular agents are reviewed.

Lycopene. Tomatoes contains a variety of carotenoids, amongst which lycopene is the most abundant. It is a powerful antioxidant and found in high concentrations within healthy prostates. Evidence from observational studies suggests a lower incidence of aggressive prostate cancer and slower progression of prostate cancer in people with a higher intake. One small RCT (Kucuk et al. 2001) supports these findings.

Selenium and vitamin E. The antioxidants Selenium and Vitamin E have both shown promise in observational studies and interventional trials, prompting the largest CAM trial in prostate cancer - the Selenium and Vitamin E Cancer Prevention Trial (SELECT). 35000 men were recruited to show the benefits of Selenium and Vitamin E either alone or in combination. The trial closed early because of failure to show any reduction in prostate

cancer incidence. Furthermore, concerns were raised about possible increased risk of prostate cancer (Vitamin E group) and diabetes (Selenium only group).

Soy and Green Tea. Initial evidence suggests that soy isoflavones may prevent prostate cancer and reduce prostate cancer growth; green tea may reduce prostate cancer incidence. Trials are largely observational. A recent meta-analysis (Yan et al. 2009) suggests a true risk reduction with soy products. Results for green tea trials have been inconsistent, but one small RCT (Boehm et al. 2009) showed a risk reduction.

Combination of broccoli, turmeric, green tea and pomegranate (POMI-T). Polyphenol-rich foods such as pomegranate, green tea, broccoli and turmeric have demonstrated anti-neoplastic effects in laboratory models. A double-blind, placebo-controlled randomised trial showed men with prostate cancer on active surveillance taking POMI-T had a reduced PSA progression compared to placebo, and were less likely to exit active surveillance.

Other dietary agents. Available literature show little benefit from multivitamins/multiminerals, vitamin A, vitamin C, calcium, zinc, flaxseed, low fat diet or saw palmetto in prostate cancer prevention or control.

Erectile Dysfunction (ED)

CAM has long been used in the management of ED with many users attesting to the efficacy of treatment. The agents with more established evidence are discussed.

Panax ginseng. Also known as Korean or Chinese ginseng, the active ingredients are tetracyclic triterpenoid saponins (ginsenosides). In a metaanalysis of 7 RCTs in 2008 (Jang et al.), panax ginseng showed significant efficacy over placebo. A more recent double blinded, placebo-controlled RCT (Choi et al. 2013) showed improvement in erectile function and premature ejaculation scores after daily consumption for 8 weeks.

Yohimbe. A systematic review demonstrated superiority of yohimbe (active ingredient yohimbine) over placebo in the treatment of ED. (Ernst et al. 1998). Yohimbe has also been used in combination with other therapies. On demand yohimbine (6mg) and L-arginine glutamate may be effective in patients with mild to moderate ED (Lebret et al. 2002).

Eurycoma longifolia (Tongkat Ali). This is a native herb to the forests of Malaysia, Indonesia and Thailand. Tongkat Ali is commonly taken as an energy enhancer or an aphrodisiac. A systematic review (Surachai et al.) performed in 2015 identified only 2 studies suitable for meta-analysis. The

conclusion was that Tongkat Ali's root extract water improves erectile function based on IIEF-5 scoring.

Male Infertility

Oxidative stress is associated with up to 80% of the male subfertility cases and most of the CAM available for male infertility exerts their therapeutic effect via the protection of sperms against oxidative DNA damage.

Antioxidants. A 2014 Cochrane review (Showell et al.) on oral antioxidants for subfertile men in couples seeking fertility assistance found a statistically significant increased chance of pregnancy and live birth for men that used one of several dietary supplements. There was no increased risk of miscarriages with supplementation. There was, however, insufficient data to draw conclusions on the superiority of one antioxidant over another.

Individual agents. Studies on individual compounds showed there is at least some evidence for coenzyme Q10, glutathione, L-carnitine, black cumin, omega-3, selenium ± NAC and zinc + folate for improvement of sperm parameters. Aescin and Korean red ginseng may benefit subfertile men with varicocele.

Combination supplements. Of the many combination male fertility treatments, two were subjected to RCT. In men with abnormal sperm parameters, taking FertiAid for Men for 90 days improve normal motile sperm count (Clifton et al.

2009). That was however a small study on only 14 men. Taking Menevit in men with abnormal sperm parameters for 3 months before IVF-ICSI improved viable pregnancy rates (Tremellen et al. 2009).

Chinese herbs. Herbs form the foundation of traditional Chinese medicine (TCM) treatment for male subfertility. There are no RCT available for individual herbs. Available studies on two decoctions: Wuzi Yanzong Wan (Pills for Reproduction) and Sheng Jing Zhong Zi Tang (Decoction for Generating Sperm) in infertile men with abnormal sperm parameters showed improvement after 3 months of usage (Yang et al. 2011).

Acupuncture. This is often employed as an adjunct to TCM and a RCT demonstrated that acupuncture improved total motile sperm count versus placebo in men with severe oligoasthenospermia (Dieterle et al. 2009).

Conclusion

Demand and popularity for CAM will continue to grow due to their ready availability, perceived safety and lower cost. There are an extraordinary number of agents available on the market purporting effectiveness in treating men's health conditions. Good quality scientific evidence supporting their claimed efficacy is lacking for many of these products. The informed physician is in the best position to help guide patients to appropriate therapies.

FAKE NEWS IN MENS HEALTH: HARD TRUTHS VS. FLACCID MYTHS

Introduction

Fake news is the current buzzword. What is fake news? It is false, often sensational information or propaganda disseminated under the guise of being authentic news.

What is a myth? A myth is a widely held but unproven or false collective belief; an invented story, idea or concept.

As primary care physicians, how would you encounter fake news on Men's Health?

1. From the media, just as your patients would;
2. Patients may ask you during consultation.
3. Friends may ask you over dinner or during casual conversation.

The downside: Can fake news be dangerous and cause harm?



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Myths that persist about ED or men's health could be preventing your patients from talking to their doctor about diagnosis and treatment options. Even worse, embarrassment or misinformation may lead patients to seek potentially harmful herbal remedies or supplements.

Health Supplements and C.A.M. are covered in greater detail in a separate article in this newsletter. However, the best

example is that of illegal health products or supplements claiming to “prolong sexual stamina” or promise miraculous cures for ED. HSA press releases have in the past alerted members of the public about illegal sexual enhancement products sold online or at “traditional” medicine shops which have been found to contain ingredients including the prescription medicine, Sildenafil (Viagra). These can cause serious adverse reactions and even lead to death in the absence of proper medical supervision.

Advice to your patients: The best way for your patients to avoid unnecessary health risks is to strictly refrain from buying from any dubious sources. It can cost them their life!

Men’s Health abounds with numerous myths, whether about erectile dysfunction, male infertility & reproduction, etc. Here is a selection of the more common ones:

Common Erectile Dysfunction Myths

Flaccid myth: ED is just a normal part of growing older and men just have to learn to live with it.

Hard truth: Although ED is more common among older men, that doesn’t make it “normal”. Some older men need more stimulation before arousal but a lack of sexual function is not an inevitable consequence of getting older. Many men are able to get erections and enjoy sex well into their senior years, and treatment is available for those who cannot.

Flaccid myth: ED is only a problem for older men

Hard truth: Although ED is more common in older men, men of any age can develop ED. This is becoming increasingly true as younger men are developing medical conditions such as diabetes, hypertension and cardiac conditions, or psychological issues such as stress or depression.

Flaccid myth: ED may be troublesome, but it isn’t dangerous

Hard truth: Although the ED itself isn’t necessarily dangerous, ED is often the earliest warning signs of underlying, potentially serious health conditions, e.g. DM, cardiovascular problems, hypertension or atherosclerosis, as well as hormone imbalances and neurological disorders such as Parkinson’s disease.

Advice to your patients: See their doctor if they have ED. Not only can the ED itself be treated but any significant health condition that needs immediate treatment can be diagnosed.

Flaccid myth: Only a specialist can treat ED

Hard truth: In most cases, a primary care doctor is a very well placed to start the ED workup and order tests such as

lipid panel and blood glucose. He or she can prescribe first-line treatments such as PDE5 inhibitors. Referral to Urologists can be made if medicines don’t work, or if there are significant concomitant urinary or prostate problems.

Flaccid myth: I can take herbal supplements to treat ED and don’t need to see a doctor.

Hard truth: There is no scientific evidence to support using herbal supplements to cure or treat ED. In addition, unregulated herbal supplements can be dangerous, may interfere with patient’s current medication and may cause unwanted side effects [which many online sites will not advise them about].

Advice to your patients: Consult their doctor before taking herbal supplements. Taking supplements without talking to their doctor means they aren’t being examined for conditions such as DM and heart disease that may contribute to ED.

Flaccid myth: Oral medications, such as Viagra, are the only treatment for ED

Hard truth: Lifestyle changes, such as losing weight and quitting smoking, are recommended before oral medications. Identifying and treating any underlying diseases should be the first line of treatment. Besides oral medications, there are other modalities available such as vacuum erection devices, intra-cavernosal PGE1 injections, penile prosthesis insertion & more recently, ESWT [shockwave therapy to the penis].

Common Myths about Male Fertility

Barren myth: Tight briefs lower sperm count, while loose boxers do not.

Fertile truth: The common theory is that tight underwear keeps testicles at a temperature too high for healthy sperm production. However, studies comparing the scrotal temperature of men wearing boxers to that of men wearing briefs found no significant difference between the two. Other studies have looked at sperm count and sperm quality, but did not find much difference between brief wearers versus boxer wearers.

Hence, there is no factual evidence suggesting that wearing boxers improves sperm counts

Barren myth: A man's age has no effect on his fertility.

Fertile truth: Sperm count and sperm quality begin to decline gradually when a man turns 40 years of age. A study published in the journal Nature has shown that paternal fertility decreases with age. The study found a

direct link between paternal age and an increased risk of autism and schizophrenia. The study also shows that fathers pass on as many as four times more genetic mutations when compared to mothers.

Barren myth: Weight & diet do not affect male fertility

Fertile truth: Being overweight can be associated with a multitude of health issues, and can definitely affect male fertility. Obesity causes elevated estrogen and low testosterone levels, which can decrease sperm counts. Overweight males also experience a decreased libido.

Advice to your patients: Calculate their Body Mass Index, and work towards improving it. Exercise will increase energy, decrease weight, and equalize testosterone and libido levels. Avoid thick cuts of meat and refined carbohydrates. A healthy diet rich in fish, chicken, fruits, vegetables, legumes and whole grains has been associated with increased sperm motility.

Barren myth: Smoking does not affect male fertility

Fertile truth: Smoking increases chances of male infertility by 30 percent. Semen parameters such as sperm count, semen volume, motility & percentage of normal forms can be affected. The American Society for Reproductive Medicine has estimated that up to 13 percent of infertility may be caused by tobacco use. The effect is dose dependent on the number of cigarettes smoked per day. Smoking as few as 5 cigarettes per day has been associated with lower fertility rates in males (and females).

Barren myth: Hot tubs, laptops, cell phones and bicycle riding do not affect semen quality

Fertile truth: Heat in extreme amounts can damage the testes and decline semen quality. A recent study by Fertility and Sterility found that the heat created from laptops can affect sperm motility and cause DNA damage. Cell phone emissions can also cause sperm damage. However, semen quality typically declines only in extreme use or regular exposure.

Advice to your patients: Keep phones in the back pocket and put a fan under your laptop. Avoid too much time on the bike or lounging too long in a hot tub, especially if actively trying to conceive. Enjoy life, but be aware and moderate in your habits.

Barren myth: Having sex too many days in a row will affect male fertility

Fertile truth: A man's body replenishes its sperm supply in about a week. After ejaculating daily for a week, possibly by the last day or so the sperm count will be slightly

decreased. Therefore, having sex every day for four or five days - such as when the partner is ovulating - will not result in a lower sperm count.

Myths about Testosterone Replacement

Myth: Testosterone replacement can cause prostate cancer

Fertile truth: For decades, the medical establishment erroneously conjectured that testosterone replacement therapy increases one's risk of prostate cancer. The relationship of testosterone to prostate cancer has undergone a significant re-evaluation, and all recent evidence has reinforced the position that testosterone therapy is safe for the prostate. There is even now a growing concern that low testosterone is a risk for prostate cancer rather than high testosterone.

Not all myths are conjured from layman's thinking

This widely held medical misconception has condemned millions of aging men to suffer degenerative diseases caused by testosterone deficiency, and it is a cautionary tale of how it may take years-even decades-to correct a medical "truth" once it has been established.

Barren myth: Fertility can be improved when you start testosterone replacement therapy in a man with low testosterone.

Fertile truth: While it sounds logical to replace testosterone when it is low, testosterone replacement therapy is actually contraindicated in a man seeking fertility! This is because exogenous testosterone suppresses intra-testicular testosterone production, which is an absolute prerequisite for normal spermatogenesis. Exogenous testosterone can drive sperm count down to zero, and this ill effect may need many months to reverse.

The appropriate treatment involves manipulation of the Hypothalamic-Pituitary-Gonadal [HPG] axis to increase endogenous testosterone, by giving the patient gonadotrophin injections, Clomiphene citrate or aromatase inhibitors.

Conclusion

What is the best way to dispel false notions about men's health topics that are prevalent amongst your patients?

1. Equip yourself with knowledge, from the medical literature, or from online websites.
2. One must discern that the source itself is trustworthy

and preferably from a recognized medical institution dispensing health education.

3. Attend CME activities & GP forums on Men's Health topics.

4. Make and keep notes of common men's health myths and responses to have them ready when patients ask you about them.
5. Explain these to your patients in easily understandable, laymen's language.

SPOTTING FAKE HEALTHCARE NEWS IN THE POPULAR MEDIA - HOW TO GUIDE ON EDUCATING OUR PATIENTS



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Patients today are highly internet-savvy and often come to physician visits armed with the latest on-line information on their disease condition. This has driven the continuing evolution of the physician-patient relationship from a paternalistic one, where the doctor knows best, to a more collaborative partnership where diagnosis and treatment are decided in a joint manner.

While increased health literacy is beneficial to the patients' well-being and is highly desirable, health literacy itself is ironically be under threat from the deluge of information, and misinformation, that is available on the internet. From the United States' Presidential Election to reports of creepy clowns and social media algorithms that only show users the news they prefer, fake news or has become so increasingly pervasive in today's media that one is hard-pressed to know what to believe. The realm of healthcare news is not spared - there is the mum with the one secret for weight loss who doctors hate, or the latest study showing that coffee and chocolates will keep you sexually potent into your 80s.

In such an environment, how should health professionals provide the best care and accurate health information to their patients? Fortunately, while patients no longer rely on physicians as their primary source of information, the medical fraternity is still often deemed to possess the clinical experience to be the final verifier of these information and function as a seasoned guide through the journey of

diagnosis and treatment. In order to better equip ourselves for this role, there are several timeless practices pearls that we can keep in mind, so as to keep our wits about us while meeting this challenge.

Understand Patients Psychology

Human beings have evolved a keen survival instinct that has served us well in applications ranging from avoiding dangerous predators, to determining when to step off the curb to cross a road or recognizing emotional states in others through their facial expressions. However, this automatic system, coined as System 1 thinking by well-known psychologist Daniel Kahneman, requires little or no effort, and often leads us to be susceptible to cognitive illusions leading to errors of intuitive thought. This may cause confirmation bias while seeking health information on-line, leading to wrongly preconceived notions about treatment, or result in patients seeking seemingly quick and easy fixes while eschewing established treatments well-known and openly discussed outcomes and side effects.

On the other hand, System 2 thinking refers to the deliberate and effortful process of solving an algebra problem or comparing two washing machines for overall value. System 2 is the thinking process required to analyse complex treatment strategies, understand the benefits and limitations of various treatment approaches, and to select the best option based on one's individual circumstances. However, System 2 thinking requires effort and attention to detail. The physician may need to point the patient to credible educational resources and engage the patient over several visits with time in between for the patient to process the information, in order to help him/ her come to a rational decision.

Empower Patients to Develop Health Literacy

Why is fake news so compelling to many patients? Patient psychology and a desire for a "quick fix" is not the only

factor. The fact is that in this era of exponential technological breakthroughs, healthcare is not as advanced as the average person imagines, and while many diseases can be treated, cures often remain elusive. This can lead to patients feeling powerless over their own destinies and more likely to consider conspiracy theories. Furthermore, it seems easy to distrust the medical-industrial complex that profits from products that make a difference between life and death to the patient. In this setting, fake health news that is shared on social media by trusted family members or friends can easily slip through one's cognitive filters. A useful therapeutic tool here would be to inject a good dose of scepticism into our patients as they navigate the journey of health literacy:

1. **Always consider the source of the article.** Who wrote it? What are the author's or publisher's motives and affiliations? Who is funding the article? Who is going to benefit from the news i.e. is there a conflict of interest e.g. website promoting myriad health benefits of coconut which is coincidentally also selling coconut oil.
2. **What seems too good to be true often is too good to be true.** Revenue on the internet is generated by site visits or "clicks". Headlines that are attention-grabbing may be "click-bait" and tug on one's emotional heartstrings while selling its own agenda.
3. **Beware of study misrepresentation.** Just because cancer cells were killed in a test-tube does not mean it will work in human beings.
4. **Corroborate the report.** If the finding is truly ground-breaking, the findings will likely be reported in other reputable news sources as well. How are other reputable news agencies interpreting the findings? What are expert opinions on the news?
5. **Do not spread fake healthcare news.** It is natural to let our guard down when we receive information from friends and family, but patients should be advised that just because something has been shared by someone they know, does not mean that it is true. They need to exercise their own judgement and evaluate the information on its merits. If the news appears to be dubious, they should refrain from sharing it.

Understand the limitations of our own knowledge

Finally, we can only help our patients if we maintain our knowledge and expertise. The practice of Medicine requires continual self-education. The volume of medical knowledge is expanding exponentially and textbooks are

often out of date by the time they are published. It would be impracticable and impossible to personally synthesize this knowledge. Fortunately, there are several strategies through which we can keep ourselves abreast and updated of this information:

1. **Read systematic reviews/meta-analyses.** These have their own pitfalls but have generally undergone knowledge synthesis by experts in the field whose only job is to know about their particular area.
2. **Read articles from high impact factor journals.** These journals are usually highly competitive for article submissions. Papers published in these journals would have undergone rigorous review and are less likely to be methodologically flawed (or if they are, these would be highlighted as study limitations) or make outlandish conclusions not supported by the data.
3. **Read original papers critically.** A good framework to use is the PICO (Patient, Intervention, Comparator, Outcomes) framework to break the study down into easily identifiable components so that one can determine what research question the study is geared to answer (and what it is not). Always ask whether the conclusions of the study are justified by the data that was analysed.
4. **Attend educational events.** Courses, Symposia or GP forums are useful ways to keep oneself updated without having to go through the trouble of searching for good articles. They can also be an avenue to ask questions and find out how peers would manage difficult cases.

Conclusion

Ultimately, trust is the most important factor in the relationship. It is not uncommon that individual patients do not fulfil the criteria for cut and dried recommendations published by medical societies and require the physician to work together with the patient to figure out what is the best strategy in his/ her particular circumstance. When the best strategy is unclear, it is often helpful to seek peer consensus via a second opinion or referral. Patients are usually seeking an experienced medical expert to diagnose and treat their condition with their best interest in mind. We can function well in this role, and help them avoid the pitfalls of medical misinformation, by approaching them with empathy, compassion and honesty.

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