Hong Kong Continence Society 香港理遺學會

Issue 28, June 2013 Newsletter

Pharmacological Treatment of Urinary Incontinence in Elder Patients , Dr. B C Tong, Hon Treasurer, Hong Kong Continence Society

Occurrence of urinary incontinence in elderly patient is usually multifactorial and hence management should be multifaceted but individualized in nature. Pharmacological treatment would play an adjuvant role. However, adverse drug reaction is always a concern and therefore a meticulous risk-benefit analysis is required before adding on any pharmacotherapy.

Drug treatment of Overactive bladder

Studies have documented a 33-61% prevalence of an overactive bladder in the elderly over the age of 65 years. Its management is generally similar to the approach taken in younger individuals, except that greater caution should be taken when pharmacological intervention is being considered because of the susceptibility of older people to adverse drug reactions. Among the many drugs that have been used for overactive bladder, the only common drugs that were shown to be effective are those with anticholinergic (antimuscarinic) properties. According to the report from the International Consultation on Incontinence 2008, most of the commonly used anticholinergic agents have received grade A recommendation for the treatment in overactive bladder, while Botulinum toxin is indicated for neurogenic detrusor overactivity. On the other hand, desmopressin would be effective in case of nocturnal polyuria.

A. Drugs with anticholinergic activities (including those with mixed actions)

The efficacies of individual anticholinergic drug appear to be dose-related and in fact are comparable among different agents.

Side effects of anti-cholinergic agents include dry mouth, constipation, blurred vision, confusion and urinary retention. Contraindications to anti-cholinergic agents include gastrointestinal obstruction, glaucoma, tachyarrhythmia, myasthenia gravis, bladder outlet obstruction, acontractile detrusor and significant residual urine. Meta-analysis have been performed and showed that similar overall adverse event profile were found for darifenacin, fesoterodine, transdermal oxybutynin, propiverine, solifenacin, tolterodine and trospium chloride but not oxybutynin orally administered when currently used starting dosages were compared. Occurrence of adverse event is again dose related.

There has recently been a concern that central nervous system adverse event were inadequately measured in trials testing antimuscarinics for overactive bladders. In this aspect, trospium has a theoretic advantage as it has a lower likelihood in crossing the blood brain barrier.

Use of antimuscarinic agents in men

There was a common concern of an underlying outflow obstruction in men presenting with symptom of overactive bladder. Various reviews in the topic suggested that antimuscarinics, alone or in combination with alpha blockers, appears to be an effective and safe treatment for symptom of overactive bladder. In case when patient has already been taking alpha blocker for presumed voiding symptoms, addition of an antimuscarinic agent for the storage symptom is worth considering. In either case, patient should be monitored closely, particularly on first month of antimuscarinic therapy, for symptom and sign of retention. A post void residual urine measurement is suggested if patient has concomitant voiding symptom. The American Urological Association recommended that antimuscarinic should be used with caution in patient with a post void residual greater than 250 -300 ml. An urodynamic study is required in case of doubt.

Anti-muscarinic agents for overactive bladder available in Hong Kong

Drug	Dosage
Darifenacin prolonged release tablet	7.5-15 mg once daily
Fesoterodine prolonged release	4-8 mg once daily
Oxybutynin	
Immediate release	2.5-5 mg two to three times a day
Extended release	5-15 mg once daily
Propiverine	15 mg two to three times a day
Solifenacin	5-10 mg once daily
Tolterodine	
Tablet	1-2 mg two times a day
SR capsule	2-4 mg once daily
Trospium	20 mg once to twice daily

B. Botulinum toxin

Injection of botulinum toxin into the bladder wall is being increasingly used to treat persistent overactive bladder. The International Consultation on Incontinence granted a grade A recommendation for the use in neurogenic detrusor overactivity but a grade B recommendation for the use in idiopathic detrusor overactivity. In the setting of refractory idiopathic overactive bladder, pooled data suggested that patient treated with botulinum toxin has 3.88 fewer incontinent episodes per day. There were also significant improvements in quality of life measurements. However, there was a nine-fold increase risk of elevated post void residual after the treatment compared with placebo. Review from the Cochrane Collaboration published in 2011 concluded that intravesical botulinum toxin appears to be an effective therapy for refractory overactive symptom, but there was little controlled data exist on benefits and safety compared with other interventions, or with placebo.

Contents:

Website: www.hkcs.hk

C. Desmopressin

The antidiuretic hormone analogue will reduce urine production. Giving desmopression 0.1-0.4 mg orally at bedtime will significantly reduce nocturia symptoms and quality of sleep. However, the risk for development of hyponatremia, particularly in elderly, is a genuine concern. Desmopressin was approved by the FDA in US for treatment of primary nocturnal enuresis. However, the use of desmopressin for treatment of nocturnal polyuria is off-label in UK. The British National Formulary advises to avoid desmopressin for treatment of nocturnal enuresis and nocturia in those over 65 years. The International Consultation on Incontinence 2008 reported that desmopressin should not be used in frail elderly because of the risk of hyponatraemia (Level 1 Grade A evidence), which can be significant due to its prolonged half-life in older persons. The original manufacturer of desmopressin have replaced oral desmopressin to desmopressin lypohilisate (equivalent doses 30-60 microgram), which melts under the tongue and has a more favourable bioavailability profile. However, there is no trial on the use of this preparation for adult nocturia published so far. Generic formulation of oral desmopressin is still available in the market.

Drug used in Overflow incontinence

Although the use of the term "overflow incontinence" has no longer been recommended by the International Continence Society since 2002, it is still commonly used in clinical settings to describe the incontinence with impaired bladder sensation in association with chronic retention of urine. It is associated with incomplete bladder emptying due to either detrusor underactivity or bladder outlet obstruction.

Pharmacological treatment should be directed to the lower urinary tract pathology and base on clinical as well as urodynamic evaluation. The ultimate concern is to prevent damage to the upper urinary tract by normalizing voiding and urethral pressures. In many cases, this may only be achieved by urinary drainage through catheter.

A. Drugs used for detrusor underactivity

Direct and indirect parasympathomimetics (muscarinic receptor agonist or anti-cholinesterase) have been used to stimulate detrusor muscles in order for facilitating bladder emptying. Most of the studies published were directed to post-operative or post-partum situation. However, from a review published in 2007, it has been concluded that the currently available data show little if any benefit of using parasympathomimetic agents in prevent or treating underactive urinary bladder.

Parasympathomimetic for detrusor underactivity available in Hong Kong

Drug	Dosage
Anticholinesterase Inhibitor	
Distigmine	5-10 mg once daily half an hour before breakfast

B. Drugs used for bladder outlet obstruction

If bladder outlet obstruction is suspected, reversible causes like fecal impaction should be excluded before considering pharmacological treatment.

Although the use of alpha-adrenergic blocker and / or 5 alpha reductase inhibitors have been useful in treating lower urinary tract symptoms associated with benign prostatic hyperplasia as well as reduction of the long term risk of acute urinary retention and the need for invasive therapy, there have not been studies looking at their use in the setting of overflow incontinence. In contrast, the use of alpha-adrenergic blockers has been shown to be beneficial in patients with acute urinary retention.

The most troublesome adverse effect for alpha-adrenergic blocker is postural hypotension and frequently results in fall. In fact most elderly cannot tolerate the drugs at higher adult dose range. Among the various alpha-blockers, alfuzosin and tamsulosin appear to be better tolerated, while tamsulosin has the least effect on blood pressure and the lowest risk for developing vascular related events. However, there have been reports concerning association of tamsulosin with the intraoperative floppy iris syndrome (IFIS), where iris flutter, iris prolapsed towards incision and progressive papillary constriction lead to high rate of complication during cataract surgery. The relative risk for tamsulosin in causing IFIS is much greater than other alpha blockers. Stopping the drug prior to cataract surgery may not prevent the occurrence of IFIS.

Alpha-adrenergic blockers for benign prostatic hyperplasia available in Hong Kong

Drug	Dosage
Alfuzosin	
Sustained release	5 mg once or twice daily
Prolonged release	5-10 mg once daily
Doxazosin	1-8 mg daily
Extended release	4-8 mg daily
Prazosin	0.5-2 mg twice daily
Terazosin	1-10 mg daily
Tamsulosin	0.4-0.8 mg daily

N.B. Adult dosage for reference. Slow dose titration is required (except for tamsulosin and alfuzosin, perhaps) and most elderly cannot tolerate the drugs at higher dose range.

Drug used for Stress incontinence

Many factors seem to be involved in the pathogenesis of stress urinary incontinence: urethral support, vesical neck function, and function of the urethral muscles. Anatomical factors cannot be treated pharmacologically and therefore the mainstays of treatment for stress incontinence are pelvic floor exercise and surgical procedures. Among the various pharmacological treatments, only duloxetine received a grade B recommendation from the International Consultation on Incontinence. Clenbuterol (beta-adrenoceptor agonist) and midodrine (alpha-adrenoceptor agonist) received grade C recommendations while imipramine (a drug with mixed actions), methoxamine, ephedrine and phenylpropanolamine (alpha-adrenoceptor agonists) received grade D recommendations. In fact the use of phenylpropanolamine has been ban from FDA because of the significant cardiovascular risk.

Duloxetine

It is a serotonin and norepinephrine reuptake inhibitor (SNRI) and it blocks the reuptake of the two neurotransmitters in sacral spinal cord, activating pudendal motor neuron causing an increase in urethral striated (rhabdosphincter) muscle tone and the force of contraction. Review of evidence by Cochrane Collaboration suggests that duloxetine can significantly improve the quality of life in patients with stress urinary incontinence, but it is unclear whether benefits are sustainable. Individual studies demonstrate a significant reduction in incontinence episode frequency (IEF) by approximately 50% but meta-analysis of stress pad test and 24 hour pad weight change failed to demonstrate a benefit for duloxetine over placebo though the data were relatively few. Duloxetine is licensed at 40 mg twice daily for the treatment of stress urinary incontinence in the European Union while it was withdrawn from the FDA consideration process in US for this indication. In Hong Kong, only 30 mg and 60 mg capsules are available and is primarily indicated for depression, neuropathy pain and anxiety disorder.

Announcement

HONG KONG ASSOCIATION OF GERONTOLOGY

HONG KONG CONTINENCE SOCIETY LIMITED

Jointly Organized

Symposium on

ADVANCES IN MANAGEMENT OF URINARY INCONTINENCE

28 June 2013 (Friday)	**6:15pm to 8:00pm**
Lecture Theatre, LG1, Ruttonjee Hospital	
Targeted participants: Doctors, RN, PT, OT (CME, CNE, CPD points accreditation)	

6:15pm to 6:30pm	Registration
6:30pm to 6:55pm	**Advances in Surgical Treatment of Urinary Incontinence** Dr. HO Kwan Lun Associate Consultant, Department of Surgery, Queen Mary Hospital
6:55pm to 7:10pm	**Overview of the Physical Therapy for Overactive Bladder** Ms. Brigitte FUNG Physiotherapist, Kwong wah Hospital
7:10pm to 7:25pm	**Case Study on the use of Electro Acupuncture for Overactive Bladder** Mr. Cheetham Siu Physiotherapist, Kwong wah Hospital
7:25pm to 7:50pm	**Advances in Nursing Management of Incontinence** Ms. CHAN Sau Kuen Nurse Consultant (Continence Care), United Christian Hospital
7:50pm to 8:00pm	Ipadmini Lucky Draw (2 campaigns)

Enquiry : Miss. Gloria Chun/ Mr. Thomas Wong (Tel: 2775 5756 / Fax: 2775 5586)
Email : info@hkag.org
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Supported by:

Public Educational Grant

Picks on event: Advances in Nursing Management of Urinary Incontinence

Speaker: Amanda Jane Wells

Consultant Nurse, Head of Department,

Bladder, bowel and pelvic floor care services,

Northern Devon Health care, NHS Trust

Date: 29 Jan 2013

Occupational Therapy in Urinary Incontinence by Peggy Hui, Occupational Therapist, United Christian Hospital

Introduction

Urinary Incontinence (UI), one of the common problems faced by the elderly, is not a single disease but it is associated with different physical as well as psychological adverse factors. Patients with UI commonly encounter difficulties like functional incapability, psychological and emotional distress, anxiety and depression which affect their quality of life and give stress on the care-givers. A hospital-wide survey showed that there were 68% of UI in the elder patient groups and the figure might be under reported (Pei & Chan 1997). UI is regarded as one of the most serious problems for patients living at home, which in turn causing premature institutionalization due to increased burden to the care-givers at home (Leung et al 1997).

Occupational Therapy and Continence Care

Occupational Therapy (OT) is a profession that concerns with promoting patients' health and well-being through occupation (WHO). The description of the occupational therapy profession's domain statement – supporting health and participation in life through engagement in occupation – describes the domain in its fullest sense (AOTA). According to OT Practices Framework, bowel and bladder management and toileting hygiene are areas of occupations, more specifically, one of activities of daily living (ADL). As one of the rehabilitation team members, occupational therapist forms an integral part of the team and provides assessment & interventions to patients with UI with the aim of restoring and maintaining the individual's continence through different carefully designed activities and therapeutic processes. Vickerman (2002) mentioned that Occupational Therapist concerns with an individual's functional ability to carry out occupations and activities of daily life. With the view of providing quality OT services, comprehensive assessment is crucial for the management of UI. Apart from screening on patients' UI history, the risk factors induced UI which are manageable and reversible are also needed to be considered e.g. delirium, dementia and depression, psychological and pain, restricted or impaired mobility and functional level, insufficient care givers, environment and clothing inadequacy.

Role of Occupational Therapist in Urinary Incontinence

UI is one of Occupational Therapists' concerns in daily clinical practices. A comprehensive assessment could identify all underlying problems that may increase the risk of the patients during activity of daily living e.g. toileting

1. Assessment

Pomfret (1996) concluded that OTs have a strong role to play as "problems related to continence care are not purely physical but also mental state, environment, clothing, functional ability and care-givers difficulties".

Vickeman (2002) emphasized that Occupational Therapy should use a holistic approach when considering patients' needs and the impact of the illness and disabilities made on their everyday lives. The analysis of patients' everyday tasks enables OT to design and provide a holistic intervention for the patients with UI.

1.1 Sensory-motor and functional demands

Patients who present with sensory and motor dysfunctions mostly affect their independence of daily activities. The analysis on patients' performance during ADL in terms of physical demands such as the range of motion, the grip and grasp, coordination and posture required and also the skills in visual, auditory, tactile and olfactory required for the specific tasks are all crucial and necessary for planning of interventions.




1.2 Cognitive and perceptual demands

Cognitive and perception are primary concerns in occupational therapy. Cognitive skills are all needed to be assessed such as orientation, memory, insight, attention, problem solving and organization. Test battery based on "skill-specific approach" assess patients on their skills in spatial relations, body scheme, figure ground, constructional praxis etc are all important and part of OT assessment for Continence care.

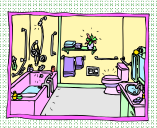

1.3 Psychosocial demands

UI is one of the barriers to allow individual to participate in meaningful activities. It changes lives, causes isolation and leads to loss of dignity, independence and self-esteem (Reichenbach, 1998) and in turn it affected quality of life. Assessment on the psychosocial impact due to UI shall also be included. Meanwhile, the sufficiency of care-givers to provide care for the patients should be also considered before delivering of the intervention.

1.4 Environmental and assistive devices considerations

Patient's poor and unfavorable living environment could lead to continence problem. Assessing patients' living environment with prescription of assistive devices are part of the assessment of continence care in Occupational Therapy.



2. Interventions

2.1 Functional skill Training

Patients with different dysfunctions greatly affect the independence in daily activity. Functional training includes interventions incorporated with task and context specific in areas which are meaningful and aim at improving the functional independence of the patient. Functional training attempts to adapt or develop exercises which allow the patients to perform activity of daily living safely and independently. Training might include:

⇒ Activity of Daily Living in simulated as well as real environment

⇒ Task specific and skill orientated training such as strengthening and endurance training, limb function training etc

2.2 Life style and behavior modification

Habit training and timed toileting regime training including the establishment of fixed schedule which required the patient to void every fixed hours such as 2 hours a time. It is then adjusted according to patient's usual and normal pattern which could be determined after a period of training and monitoring. The training usually incorporated into the patient's routines such as after meal or before certain activities. The main focus is to make the time between the voiding to be increased into normal timing. Evidence showed that this type of training usually be more successful in institutional home.

Prompted voiding is another type of behavioral training mostly used in aged home for those cognitively impaired patients. Care-givers have more significant role in this training and are responsible to ask the needs of patients in regular basis such as 1 to 2 hours meanwhile record wet or dry at the time.

2.3 Prescription and consultation of Assistive device and technology

Devices and products to contain or collect the urine as part of the management of UI are beneficial for patients who are too ill or disabled to participate in behavioral programs or other interventions. The judicious use of products to contain urine loss and maintain skin integrity is the first-line defense for these patients (Newman, 2004). Examples of the devices include:

Urinal, bedside commode and raised toilet seat

Furniture adaptive devices or measures




2.4 Environmental assessment and modifications

The capability to reach toilet in time is one of the important factor to keep continent. Environmental barrier and hazard usually contribute to the incontinence problems. With the cooperation of care-givers, the modification of the residential area could be made possible and UI problem be easier be solved. Different scope of home modifications could be considered with which installation of upper limb supports such as handrail or bars and visual cues for locating toilet facilities to facilitate toileting tasks be safely completed.

2.5 Cognitive and perceptual training

Patients with cognitive and perception impairment face challenges to maintain continent. The ability to orientate to place, time and person is important for a person to maintain continent even at home. The difficulties in locating the bathroom and toilet always induce incontinence problem. Occupational Therapist design and make remedial measures to help and assist care-givers in tackling the problems. Cognitive stimulation and training modalities on the other hand are commonly adopted in the training program.

2.6 Clothing design and adaption

The ability to put on and off clothes is essential to maintain continence as well as functional independence. Easy manage clothes with minimal layers and special designs are all necessary for special need patients such as those with neurological impairment. Wrap over skirts, side opening underwear and crotchless tights are all designs for the population being provided by Occupational Therapist.

Physical restrainer that prevents individual from falling out of bed or wheelchair shall also be carefully designed or it will in the contrary make the patient even more stressful and incontinence problem even worse especially in the aged home where no sufficient care-givers the care for toileting.




Adaptation of pants for urinary bag

2.7 Psychosocial management

UI in community-dwelling elders with fall and depression was repeatedly reported in several studies. UI imposes significant psychosocial distress on patients, family, friends and care-givers. Psychosocial management including different therapeutic groups for patients capable to understand and take part in the goal achieved should be provided.

2.8 Patient and Care-givers education and empowerment program

Self-management and empowerment program for patients with UI is another concern for OT. Through special design program, patients and care-giver should understand and improve knowledge and skill on continence care. Cares in hygiene including management of odor and skin integrity, dietary considerations and management are all should be part of the educational contents of the program. The importance of healthy life style including sufficient exercise habit should also be emphasized.

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