



Chronic Medical Conditions and Lower Urinary Tract Dysfunction, Assessment and Management

Workshop 34

Tuesday 24 August 2010, 09:00 – 12:00

Time	Time	Topic	Speaker
9.00	9.05	Introduction	Abdalla Fayyad
9.05	9.40	LUTS in the elderly, Dementia and Depression	Adrian Wagg
9.40	10.15	Management of LUTS following stroke	Jalesh Panicker
10.15	10.35	Diabetes and LUTS, what do know already	Abdalla Fayyad
10.35	11.00	Break	
11.00	11.20	Diabetes and LUTS, the future?	Simon Hill
11.20	12.00	Management of LUTS in MS and Parkinson's	Jalesh Panicker

Aims of course/workshop

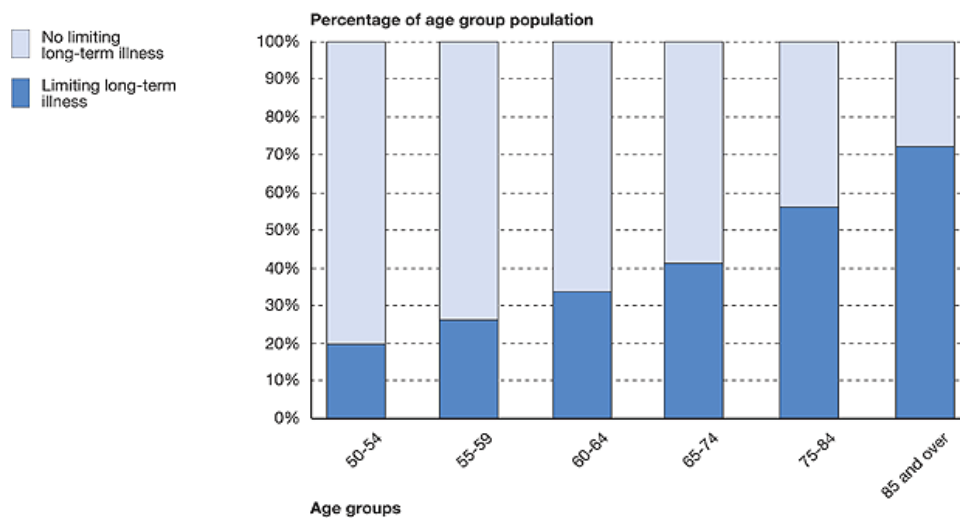
Understanding the aetiology and management of LUTS in the presence of chronic medical morbidities is always challenging. Evidence suggests that LUTS are managed inappropriately in many medical conditions. The aim of this workshop is to provide the candidates with up to date evidence of the best management of LUTS in the elderly, dementia, neurological conditions and diabetes.

Educational Objectives

The workshop will cover the management of LUTS in the elderly and in the presence of dementia. Special emphasis will be on the management of LUTS in diabetes mellitus and update on the management of urinary incontinence after stroke and in patients with multiple sclerosis and Parkinson's Disease.

Co-morbid conditions and incontinence – other areas to consider

By age 75, the proportion of people living with at least one limiting long term condition reaches 55%¹



In a sample of 2612 people 65y+with urinary incontinence in primary care, the documented distribution of diseases which have an impact on continence status was:

N=2612	n	%
Chronic constipation	142	5
Depression	192	7
Dementia	474	18
Diabetes	429	16
Functional impairment	760	29
Hypertension	694	27
Heart failure	318	12
Stroke	348	13

Many co-existent conditions may additionally have an impact on continence status². The data which have established an association between incontinence and many of these conditions are increasing. Some longitudinal studies, particularly in diabetes³, have confirmed an association, although the mechanism by which incontinence results is unclear. For conditions such as dementia⁴ and depression⁵; the strength of the association is weak. For neurological conditions such as Parkinson's disease data on the association of LUTS and PD, the effect of medication for PD on LUTS and the effects of treatment are either conflicting, or lacking. The evidence for intervention for these diseases which might have a positive benefit on incontinence is lacking for many diseases, and is often based on custom, practice and intuitive belief. There has been no systematic attempt to explore the effect of treatment of chronic heart failure, depression or chronic constipation on continence status. Data exist for: stroke^{6,7} and functional impairment but are lacking in quality and rigour. Where progress has been made is in the area of physical exercise interventions^{8,9} and co-existent obesity^{6,7}. The rationale for intervention in diseases with a plausible hypothesis for causation will be presented

References

1. <http://www.audit-commission.gov.uk/reports/accessible.asp?ProdID=78C11913-8606-47F2-93F6-EA7345934825>
2. Health care needs assessment. The epidemiologically based needs assessment reviews. <http://hcna.radcliffe-oxford.com/top.html>
3. Phelan S, Grodstein F, Brown JS. Clinical research in diabetes and urinary incontinence: what we know and need to know. *J Urol*. 2009 Dec;182(6 Suppl):S14-7
4. Yip SK, Cardozo L. Psychological morbidity and female urinary incontinence. *Best Pract Res Clin Obstet Gynaecol*. 2007 Apr;21(2):321-9.
5. Hägglund D. A systematic literature review of incontinence care for persons with dementia: the research evidence. *J Clin Nurs*. 2010 Feb;19(3-4):303-12.
6. Gelber DA. Et al. *Stroke* 1993;24:378-382
7. Tibaek S, Gard G, Jensen R *Int Urogynecol J Pelvic Floor Dysfunct*. 2007 Mar;18(3):281-7
8. Subak, L.L., et al., Does weight loss improve incontinence in moderately obese women? *Int Urogynecol J Pelvic Floor Dysfunct*, 2002. **13**(1): p. 40-3.
9. Auwad, W., et al., Moderate weight loss in obese women with urinary incontinence: a prospective longitudinal study. *Int Urogynecol J Pelvic Floor Dysfunct*, 2008. **19**(9): p. 1251-9.
10. van Houten P, Achterberg W, Ribbe M Urinary incontinence in disabled elderly women: a randomized clinical trial on the effect of training mobility and toileting skills to achieve independent toileting. *Gerontology*. 2007;53(4):205-10
11. Kim, H., et al., Effectiveness of multidimensional exercises for the treatment of stress urinary incontinence in elderly community-dwelling Japanese women: a randomized, controlled, crossover trial. *J Am Geriatr Soc*, 2007. **55**(12): p. 1932-9.
12. Sugaya K, Nishijima S, Owan T, Oda M, Miyazato M, Ogawa Y. Effect of walking exercise on nocturia in the elderly. *Biomed Res*. 2007 Apr;28(2):101-5.

Incontinence in neurological disorders: Stroke



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Stroke

Acute neurological manifestations of a cerebrovascular disease resulting from interruption of blood flow to brain

Arterial and venous strokes

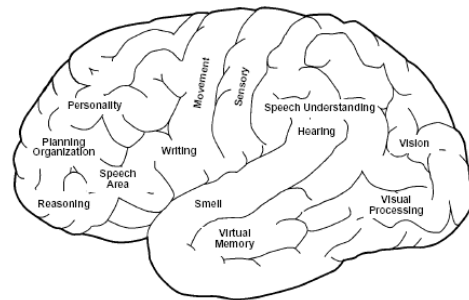
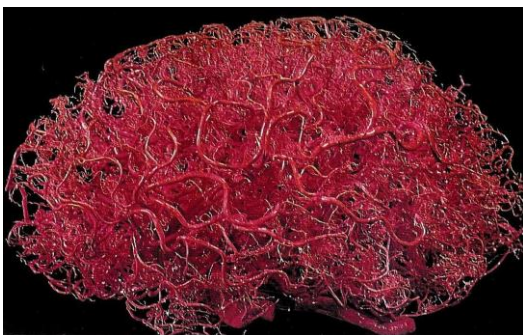
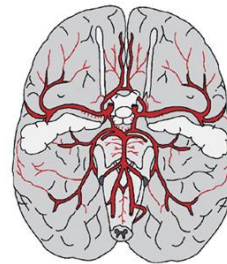
MONICA study

Thrombotic 75-85%

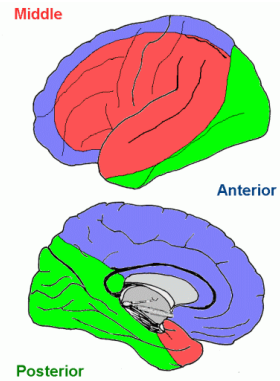
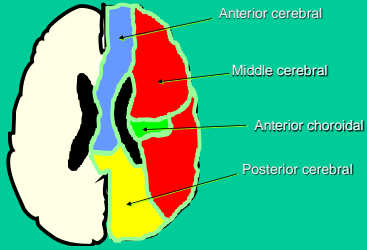
Intracerebral bleed 10%

SAH 2-5%

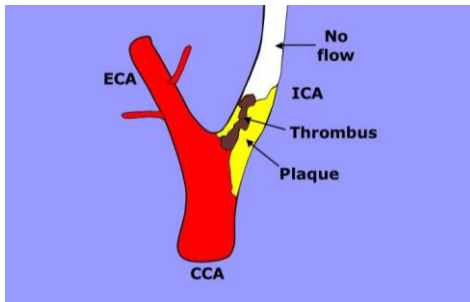
Three major arteries



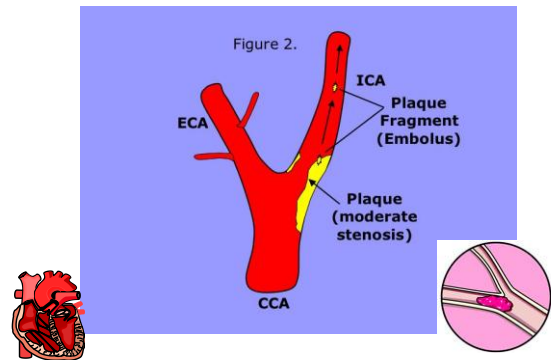
Arterial territories



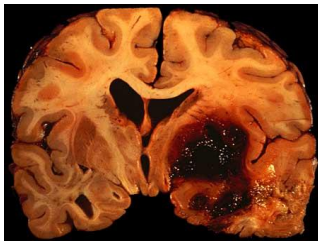
Thrombosis



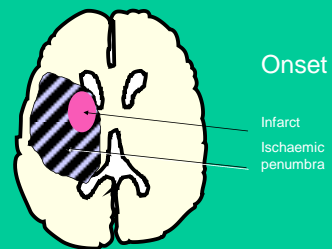
Embolism

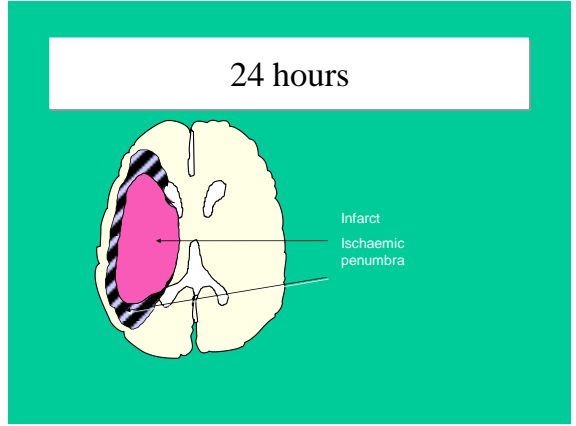
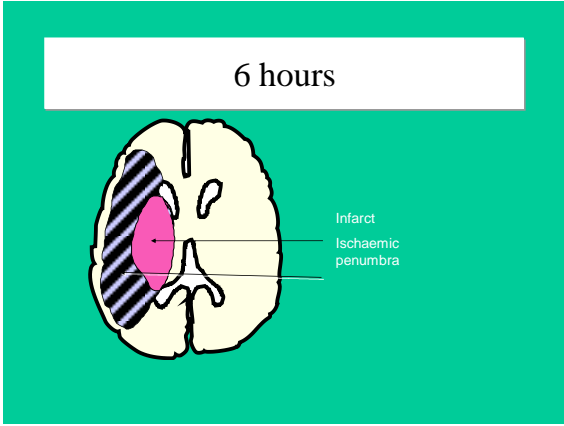


Hemorrhage

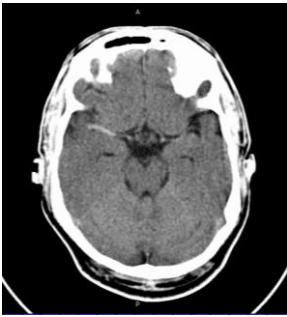


Infarct and the ischemic penumbra





Hyperdense MCA sign



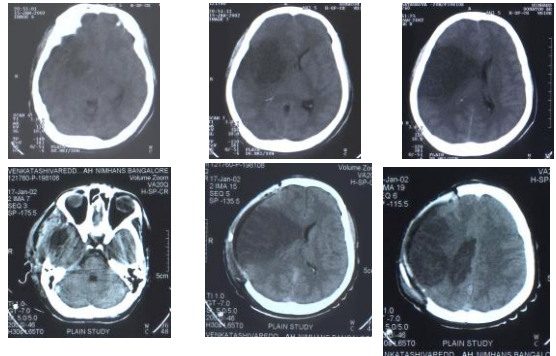
Hyperdense MCA sign, no sign of infarct: < 6 hours



Now infarct appears after 3 days



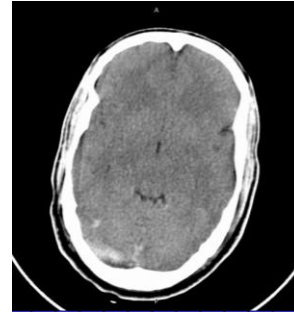
Arterial Infarction



Cerebral venous thrombosis: cord sign and cerebral edema



Cord sign, cerebral edema: CVT



UCL

Bladder dysfunction in acute stroke

- Common
- Acute stage: stage of neuronal shock
- Acute urinary retention
- Incontinence at 7 days prognosticates long term outcome following stroke and institutionalization (Wade and Hewer 1985)

UCL

A neuroanatomical correlation?



Sakakibara et al., 1996

UCL

Urinary tract infections during acute stroke

- Increased risk in acute stroke
- Predictors: age, catheterisation, female gender, stroke severity
- Association between UTIs and outcome?

UCL

Symptoms

- Nocturia 36%
- Urge incontinence 29%
- Voiding difficulty 25%
- Urinary retention (acute stage): 6%

Sakakibara et al. 1996



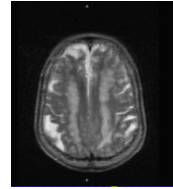
Urodynamic findings and stroke (n=22)

- Detrusor overactivity (68%)
- Detrusor-sphincter dyssynergia (14%)
- Unrelaxing sphincter (36%)
- Retention: detrusor areflexia and unrelaxing sphincter
- No correlation with location of lesion or type of stroke

Sakakibara et al., 1996

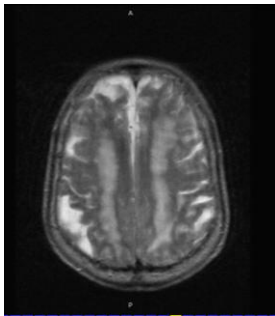


**Leukoaraiosis:
white matter hyperintensities**

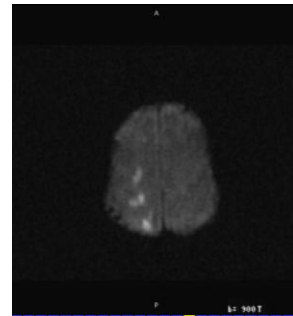


- Diffuse white matter disease
- Disease of the small vessels
- Cognition and affect, mobility, incontinence
- “Binswanger’s Disease”

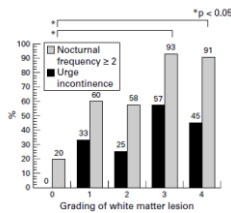
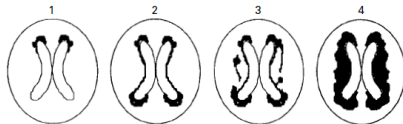
Which is the fresh infarct? 3 hours after stroke



Diffusion weighted imaging gives the answer



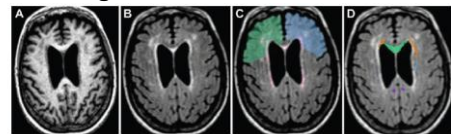
Leukoaraiosis and incontinence



Sakakibara et al., 1999



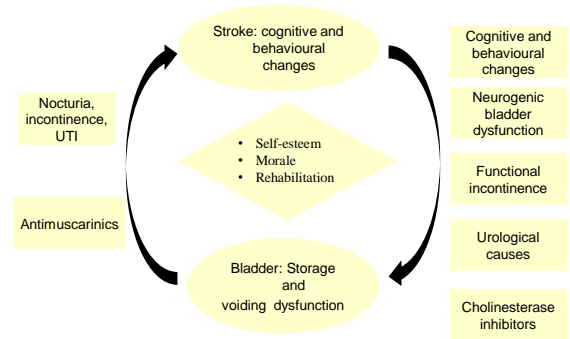
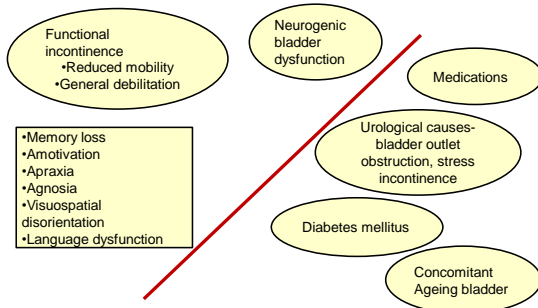
White matter hyperintensities: a cause for geriatric incontinence?



- Lesions in right inferior frontal regions predicts incontinence and severity
- Lesions in cingulum, anterior corona radiata, predict incontinence

Kuchel et al., 2009

Incontinence and the patient with stroke



Investigations

Acute Stroke

- Exclude UTI
- Bladder scan
- Catheterisation?
- Penile sheath?
- Antimuscarinics?

Chronic Stroke

- Exclude UTI
- Bladder scan
- Urodynamics?
- Bladder management as for other chronic neurological conditions

Points to consider

- Cognition and behaviour
- Manual dexterity
- Hemianopia
- Language disturbance
- Visospatial disorientation
- Hemineglect

Conclusion

- Incontinence after stroke common
- Incontinence at 7 days post-stroke predicts stroke outcome
- Anterior lesions more likely to be associated with stroke
- Bladder symptoms vary with time
- Incontinence post-stroke may be multifactorial

Diabetes Mellitus and LUTS

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Urogynaecology

- Scope of the problem
- Help seeking behaviour
- Patient centred outcomes
- Treatment in primary care
- Secondary and tertiary care

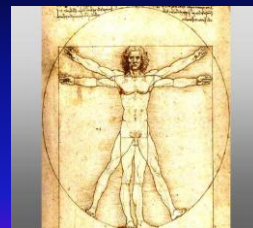
Scope of the problem

- Increasing
- Under reported
- Mismanaged



Expectations

Positive proof of global warming.





• Help seeking behaviour:

Incontinence was a normal part of ageing
Incontinence is normal after childbirth
There was no treatment
Treatment does not fix the problem
Treatment is risky or harmful

Doshi et al 2010 *J Urol*

EGGS for Patient Centred Outcomes

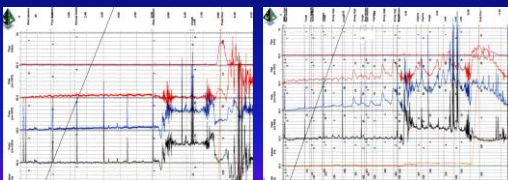
- Patient centred outcomes:
 - E: Expectations
 - G: Goals
 - G: Goal Setting
 - S: Satisfaction

Urinary Incontinence

- Stress urinary incontinence
- Overactive bladder

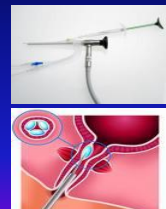
Urodynamic studies

- Urodynamic stress incontinence
- Detrusor overactivity incontinence



Surgery

- TVT
- Bulking agents



Botox



- Prevalence
- Urine Production
- Voiding Dysfunction
- Decisions on treatment

- 42% prevalence of bothersome LUTS in DM
- Help Seeking behaviour

Voiding Dysfunction

- Frimodt Muller
- Increased
- Asymptomatic
- UTI
- Bladder wall thickness

Decisions on treatments

- Diabetes Control
- Surgery
- Anticholinergics??
- Voiding dysfunction
- Future?