

QI Project for QUB Medical students during their summer Primary Care Elective

QI project (at scale) for QUB Medical students during their summer Primary Care Elective

The Anti-cholinergic Burden in Elderly patients with dementia

This project will see senior medical students work alongside their GP tutor and General Practice Pharmacist, setting up a QI project and independently, with support and supervision review patients on anticholinergic medication for symptoms of urinary incontinence and cholinesterase inhibitors for dementia.

This project is optional and depends on the student identified learning needs/objectives and the practice identified teaching and QI objectives.

Rational for choosing patients on anticholinergics and cholinesterase inhibitors

Urinary Incontinence (UI) and Dementia

There are many causes for UI and among the elderly with dementia the problem is often not related to abnormalities of the lower urinary tract and can be described as 'functional' rather than 'urge'.

Side effects of Cholinesterase inhibitors (ChIs), commonly used to treat dementia include urinary frequency or incontinence. Consequently, patients treated with ChIs are at an increased risk of receiving an anticholinergic drug to manage UI.

Anticholinergics and cholinesterase inhibitors are in pharmacological opposition (decreased and increased acetylcholine effect), and the simultaneous pharmacological treatment of dementia and UI could lead to reduced effectiveness of one or both drugs.

The anti-cholinergic burden

Treatments with anticholinergic activity might have harmful effects especially when multiple medications with an anticholinergic activity are combined. It increases the so called Anti-cholinergic burden. This potential for harm increases with frailty and age.

Anticholinergic effects can cause a broad range of adverse events, including constipation, dry mouth, dry eyes, urinary retention, but also confusion and long term prescribing can induce cognitive impairment/dementia, falls, agitation and even mortality. A systematic review and meta-analysis (K. Ruxton 2015) reported that long-term exposure to drugs with anticholinergic effects was associated

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with an increased risk of cognitive impairment and all-cause mortality in older people, and some drugs were linked to an increased risk of falls. Furthermore, there is a lack of data on long term efficacy.

Cohort size

It is estimated that on average 5 to 10 patients in a practice of 7,000 patient will be taking an anti-cholinergic for urinary incontinence and a cholinesterase inhibitor for dementia. This is a manageable cohort.

Rational for including this project in the Primary care Elective

Potential Learning outcomes for students

- learn about QI
- learn about the COMPASS report
- learn about doing searches on the Clinical system
- learn about the anti-cholinergic burden
- learn about deprescribing
- use of guidelines
- use of validated scoring system
- collaboration with other Primary Care Healthcare Professionals (General Practice Pharmacists)
- lean through an Entrusted Professional Activity (EPA)- student lead deprescribing telephone clinic

Possible positive Outcome for practice/HSCB

-less patients taking medications with potential little benefit but with risk of an increased anti-cholinergic burden and adverse effects associated with it.

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How the practice will be preparing and facilitate the QI project

- identify a lead GPP
- search(es)
- agree on letter
- send letter to patients
- ‘white board’ medication review meeting with GPP/tutor and students to discuss the individual cases
- set up student led telephone clinic (with GPP or tutor supervision)
 - First 1 to 2 patients done under direct supervision
 - Rest of clinic ‘Student Led’ as an Entrusted Professional activity

How the students will be preparing for the EPA

- e-learning on deprescribing (PCSD website)
<https://subdeanery.easternfsu.com/orientation/>
- Urinary Incontinence CKS guidelines
<https://cks.nice.org.uk/topics/incontinence-urinary-in-women/>
- Anti-cholinergic burden/ACB score (primary Care Intranet)
- attend short regional session on 14th of June 2021 at 1 PM (book your place on <https://subdeanery.easternfsu.com/events/>) for more information on the Summer electives in Primary care, the QI project and the concept of and engaging in other Entrusted Professional Activities

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Medications to consider at review:

Bladder anticholinergics include Darifenacin, Fesoterodine, Flavoxate, Oxybutynin, Propiverine, Solifenacin, Tolterodine and Trosipium.

Cholinesterase inhibitors include Donepezil, Galantamine and Rivastigmine

Other examples of drugs with severe anticholinergic effects Amitriptyline, Diphenhydramine. Hyoscine hydrobromide, Olanzapine, Promethazine, Quetiapine

Other medicines which might be contributing to UI (Diuretics, clozapine, alpha adrenoreceptor antagonists, calcium channel antagonists, SSRIs, SGLT2 inhibitors)

When speaking to patient/carer:

-calculate anti-cholinergic burden <http://www.acbcalc.com/>

- educate patients/carer to manage their expectations of treatment outcomes, as the bladder anticholinergics provide modest benefit only, with increased risk of side effects such as: constipation, urinary retention, dry eyes / mouth, sedation, confusion, delirium, falls and reduced cognition.

-discuss considering a 'drug holiday' or stopping bladder anticholinergic drug. Involve the patient or carer in the decision.

-refer to continence team for non-pharmacological coping strategies as appropriate

--Consider re-referral to specialist to review and deprescribe the Cholinesterase inhibitor (carefully and gradually) in patients at a very advanced stage in their dementia process if it is no longer felt to be effective or appropriate.

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References:

ABC calculator: <http://www.acbcalc.com/>

Fröberg, Maria, Charlotte Leanderson, Birgitta Fläckman, Erik Hedman-Lagerlöf, Karin Björklund, Gunnar H. Nilsson ea. Experiences of a student-run clinic in primary care: a mixed-method study with students, patients and supervisors. Scandinavian Journal of Primary Care 2018, vol 36, issue 1, p 36-46.

NICE guidelines:<https://cks.nice.org.uk/topics/incontinence-urinary-in-women/management/managing-urgency-incontinence/>

<https://cks.nice.org.uk/topics/incontinence-urinary-in-women/prescribing-information/antimuscarinics><https://qi.easternfsu.com/>

(last accessed May 2021)

NIFormulary: <https://niformulary.hscni.net/deprescribing/anticholinergic-burden/>

Ruxton, Kimberley, R.J. Woodman, A. A. Mangoni. Drugs with anticholinergic effects and cognitive impairment, falls and all-cause mortality in older adults: A systematic review and meta-analysis. Br J Clin Pharmacol. 2015 Aug; 80(2): 209–220. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4541969/>

Student Led Clinic Toolkit, Canada. https://www.cfms.org/files/updates/SRC_ToolKit.pdf

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Draft Letter to patient

Dear

While reviewing your medication list it came to our attention you could be on medications which are possibly giving you little benefit, but could increase the risk of constipation, urinary retention, dry eyes / mouth, sedation, confusion, delirium, falls and reduced cognition.

The medication (s) we want to discuss with you (or your carer) is

We have a senior medical student working with us who has been trained and will be supported to discuss this change in medication with you.

A provisional date for a telephone consult has been made on

We would appreciate you would make yourself available for this telephone consult

Please continue taking your medications as prescribed for now

Kind regards,

