Survey on Patients on Lithium-Thiazide/ACEi/NSAID combination in psychiatric clinics in Kowloon East Cluster
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Introduction
Drug-induced Lithium toxicity is a common and preventable cause of lithium toxicity. Three major drug classes have been identified as potential precipitants of Lithium toxicity, including: (1) Thiazide (or Thiazide-like) diuretics, (2) Angiotensin-converting enzyme inhibitors (ACEi) and (3) Non-steroidal anti-inflammatory drugs (NSAIDs). The potential risk of lithium toxicity induced by combination of these drugs prescribed by different clinics may be overlooked, especially in busy clinic settings. The current study looks into the problem by identification and investigation on patients on Lithium-Thiazide/ACEi/NSAID combination in our psychiatric clinics.

Objectives
(1) To investigate the patient and treatment profiles of patients on Lithium-thiazide/ACEi/NSAID combination in psychiatric clinics in Kowloon East Cluster (KEC) (2) To identify patients having high risk of lithium toxicity needing immediate action among patients on Lithium-thiazide/ACEi/NSAID combination

Methodology
Outpatients in KEC psychiatric clinics, including United Christian Hospital Psychiatric Clinic (UCHPC) and Yung Fung Shee Psychiatric Centre (YFSPC) currently on Lithium-Thiazide/ACEi/NSAID combination were identified from a list obtained from the senior pharmacist of KEC. The psychiatric outpatient case notes and electronic patient records (ePR) were reviewed for extraction of background and clinical information. Patients with high risk of Lithium toxicity will be identified for immediate actions. The case doctors of all patients on Lithium-Thiazide/ACEi/NSAID combination identified will be reminded to review the regimen and monitor Lithium level and RFT once every 6 months.

Result
(A) Number of patients on Lithium-Thiazide/ACEi/NSAID combination: 28 (B) Background: □ Age: □ Mean 54; Interquartile Range (IQR) 49-60 □
Number of patient with Age >65: 5 □ Gender: □ 15 male, 13 female □
Follow-up clinics: □ YFSPC: 19 □ UCHPC: 9 (C) Number of patients on
Lithium – Thiazide/ ACEi/ NSAID combination
Combined drug with Lithium

No. of patients

- Thiazides
  - Hydrochlorothiazide 4
  - Indapamide 2
  - Moduretic 1
- ACEi
  - Enalapril 8
  - Lisinopril 12
- Perindopril 2
- NSAIDs
  - Diclofenac 1
  - Ibuprofen 1

Total: 28

(D) Psychiatric diagnosis of patients on Lithium – Thiazide/ ACEi/ NSAID combination:
Psychiatric diagnosis

No. of patients

- Bipolar affective disorder 13
- Schizoaffective disorder 6
- Schizophrenia 3
- Depression 3
- Delusional Disorder 2
- Organic Personality Disorder 1

Total: 28

(E) Risk factors of Lithium toxicity
Medical illnesses of patients on Lithium – Thiazide/ ACEi/ NSAID combination

Medical Illness

No. of patients

- Hypertension 26
- Diabetes 14
- Hyperlipidemia 10
- Cardiovascular 3
- Thyroid 2
- Renal 1
- Respiratory 1

History of Lithium toxicity

Number of patients with history of Lithium toxicity: 1

(F) Duration of treatment
Duration of Lithium treatment:
Mean: 98 months, IQR 41-150 months

(G) Blood taking
Lithium level checked after start of Lithium – Thiazide/ ACEi/ NSAID combination: 28

Latest renal function test
Number of months from last blood test: Mean 4, IQR 2-6

Elevated Creatinine level: 11

Latest lithium level:
Number of months from last blood test: Mean 5, IQR 4-8

Lithium level: all <=1

(H) Follow-up actions:
Case doctors were contacted immediately and individually for patients requiring immediate actions for:
- Lithium- Thiazide combination: 4
- High risk of Lithium toxicity
  - Age >= 65 years: 5
  - Co-morbid heart failure: 0
  - Co-morbid severe chronic renal failure (documented GFR <10ml/min): 0

A list of all patients on Lithium- Thiazide/ ACEi/ NSAID combination, together with a reminder for actions (blood check once every 6 months and to consider reviewing the regimen) were sent to all doctors and supervisors in UCH.