中文題目：個案報告：因鋰鹽治療所導致的甲狀腺功能低下

英文題目：Lithium-Induced Hypothyroidism: A Case Report

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Background: Lithium is widely used as a mood stabilizer in managing mental illness, mainly bipolar disorder. In this case, we report a 38 years old woman admitted for mania. Lithium-induced hypothyroidism was found during admission.

Methods: A 38 years old woman without systemic disease was admitted to our psychiatric ward in May 2016, under the diagnosis of mania disorder. The routine laboratory study revealed normal thyroid function at first (TSH: 2.56 uIU/ml, FT4: 0.66 ng/dl). Her medication included Carbamazepine, Estazolam, Trihexyphenidyl, Haloperidol, and Lithium. In September 2017, subclinical hyperthyroidism was found. (TSH < 0 uIU/ml, FT4 1.18 ng/dl) There was no any symptoms or signs of hyperthyroidism noted. Therefore, we did not prescribe anti-thyroid drug for her. On January 2018, we rechecked thyroid function again, together with adrenal function and thyroid antibodies. The data revealed: TSH 17.39 uIU/ml, FT4 0.32 ng/dl, T3 0.77 ng/ml, AM Cortisol 10.19 ug/dl, TSHR Ab 9%, Anti-TPO Ab > 13000 IU/mL. The tentative diagnosis was Lithium-induced hypothyroidism. Levothyroxine was prescribed for hypothyroidism treatment. The thyroid function became normal after treatment, and then levothyroxine was discontinued. The patient accepted regular follow-up in our hospital now, and her thyroid function has remained normal for almost 1 year.

Discussion: The thyroid axis is prone to interactions with many drugs, and hypothyroidism is the most common condition of drug-induced thyroid dysfunction. Many drugs can induce hypothyroidism through different mechanisms, including inhibition of synthesis and/or release of thyroid hormones, inhibition of TSH synthesis, and other immune mechanisms. Lithium is the first-line treatment for bipolar disorder. However, it can cause hypothyroidism by inhibition of thyroid hormone secretion. Besides, it can also cause goiter and hyperthyroidism. The prevalence of hypothyroidism induced by Lithium ranged from 6 to 52 percent according to several series, and it usually occurs during the first two years of lithium therapy. When hypothyroidism develops, it should be treated with thyroxin according to guidelines. Usually, there is no need to discontinue Lithium treatment, especially without consultation with the patient's psychiatrist first.

Conclusion: Lithium may cause both hyperthyroidism and hypothyroidism. It is strongly suggested to evaluate thyroid function before starting treatment of mental disorder with Lithium. Thyroid function should also be regularly checked during treatment course. When hypothyroidism develops, it should be treated with thyroxin according to guidelines and it is usually no need to discontinue Lithium treatment.