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A prospective clinical trial on the efficacy of lithium as adjuvant therapy to radioiodine in the treatment of hyperthyroidism

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Statement of the Problem: Radioactive Iodine (RAI) is one of the main treatment modalities of hyperthyroidism. However, its success rate differs between centres. One of the determining factors of RAI success is its intrathyroidal persistence. Lithium has been said to improve efficacy of RAI but it remains debatable till today.

Objective: To assess the efficacy and safety of lithium carbonate as an adjuvant therapy to RAI in the treatment of hyperthyroidism.

Methods: This is a prospective, interventional, 2 arm parallel-group, open label single centre study carried out in the Endocrinology Unit, Department of Medicine of Penang General Hospital. The interventional medication is lithium carbonate 300 mg twice daily for 14 days starting on the day of RAI therapy. Lithium carbonate 300 mg twice daily was given on the day of RAI (at least 2 hours prior to RAI) to 40 subjects and no added medication to the standard RAI therapy in 40 subjects in the control group. Subjects were followed up for 24 weeks with 6 study visits.

Results: There were no significant difference in the clinical, demographic and biochemical profile of the two groups. Dose of RAI was a standard 15 mCi in both groups. The cure rate in RAI plus lithium group was 62.2% and the cure rate in RAI alone group was 63.2% ($p=0.932$). Mean time to cure in RAI plus lithium versus RAI alone group were similar 13.6 ± 6.1 weeks vs. 13.2 ± 6.5 weeks ($p=0.841$).

Conclusion: Lithium does not improve the efficacy of RAI significantly in hyperthyroid patients. However, lithium is able to prevent thyroid hormone surge post RAI therapy therefore reducing morbidity related to RAI therapy.

Biography

Shalini Sree Dharan has recently completed her Specialty training in Endocrinology and Diabetes. She did her Fellowship under the Ministry of Health, Malaysia and also in the United Kingdom where she worked as an International Clinical Fellow in Endocrinology in The Christie NHS Foundation and then in Cambridge University Hospital. She is currently pioneering the endocrine and diabetes services in her hospital. Her interest is in the area of diabetes complications, thyroid, adrenal, pituitary and reproductive endocrinology.

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