

damage vital structures. Research has been looking for new instruments with less thermal spread in the effort to reduce both operating time and complications ^(7,8). Ligasure enable sealing and division of a vessel which disperses less heat to surrounding tissue than classical bipolar or monopolar electro coagulation methods. Ligasure system produces a consistent permanent autologous seal to veins, arteries and tissue bundles up to 7 mm in diameter, melting the tissue's collagen and elastin. It incorporates intelligent sensor within the diathermy forceps that provide audible tones once a complete seal cycle is accomplished ⁽⁹⁻¹⁰⁾. The objectives were to evaluate the operative time, hospital stay and postoperative complications that achieved by ligasure in versus with clamp-tie technique in subtotal and near total thyroidectomy.

Methods

This cross sectional study on sample of 100 patients with multinodular goiter who were admitted to the first surgical unit in Baghdad Teaching Hospital at Medical City between first of June 2009 to first of June 2010. We divided the patients in to two groups, in group one a 45 patients were involved and underwent thyroidectomy by using a bipolar vessel ligation system (ligasure) and it was the choice of modality for hemostasis and group two as 55 patients involved and a clamp and tie suture technique was used for hemostasis. A thorough history and clinical examination were done and investigations were sent and the diagnosis of goiter was established, the surgery was done by using these two methods of hemostasis. According to pre-operative clinical, radiological and laboratory evaluations of 30 patients (30%) were hyperthyroid with diagnosis of toxic multinodular goiter.

Out of these 30 hyperthyroid patients a 14 patients (47%) were in ligasure group and 16 patients (53%) were in a clamp and group. All hyperthyroid patients had been receiving antithyroid medication pre-operatively to provide an euthyroid state. Treatment with propranolol tablet with initial dose of 40-60

mg/day and carbimazol tablet in dose of 10-30 mg/day, which were reduced gradually to maintain euthyroid state, as serum thyroid hormone concentrations declined. Patients received this treatment for a minimum of 2 weeks before operation. The indications for surgical treatment of these hyperthyroid patients were as follow, patients were inconvenienced for medical treatment (20 patients), large goiter (10 patients), while the main indications for surgery of all euthyroid patients (70 patients) were large goiters that caused compressive effects. None of these patients in the current study groups had been receiving either any medications known to have any side effects on coagulation, or any anti-coagulative drugs, and none of them had been diagnosed of any coagulopathic disorders formerly.

Patients were assessed for early post-operative complications as recurrent laryngeal nerve paralysis, hypoparathyroidism, hemorrhage, operating time and duration of post-operative hospital stay. Indirect laryngoscopic examination was applied to carry in all patients. Post-operative cord palsy was defined as the presence of an immobile vocal cord or decreased movements of cords during phonation. Classical thyroidectomy is done by performing a collar incision, the subcutaneous tissue and platysma were divided, and skin flaps were developed by monopolar electrocautery. The strap muscles were divided in the midline and retracted laterally, in group one all middle thyroid veins and vessels of superior and inferior thyroidal poles were sealed with ligasure regardless of their size, the ligasure was used only if the distance was wider than 2 mm between the tip of the device and recurrent laryngeal nerve., after bleeding control, suction drains were placed in all patients. After surgical intervention, Histopathological examinations were performed for all patients.

Patients were followed for 6 months post-operatively. In group two, we used a clamp and tie technique for hemostasis for superior and inferior poles. In all patients, thyroidectomy was