SUMMARY

The recurrent laryngeal nerve damage in throidectomy is the most important complications in thyroid surgery. The incidence of unilateral recurrent laryngeal nerve injury is (2.3%) and bilateral nerve injury is 0.5%.

The incidence of the injury had significant relationship with the secondary procedure as recurrent goiter or histological findings as multinodular goiter and failure to identify the recurrent laryngeal nerve during surgery. Major complications can be blamed on technical pitfalls, even in the hands of experienced surgeon.

Recurrent laryngeal nerves are mixed nerves, since they contain both motor and sensory fibers. The recurrent laryngeal nerves supply the intrinsic muscles of the larynx except for cricothyroid muscle. The recurrent laryngeal nerve also contains the sensory fibers that supply the receptors in the region below the vocal fold.

The recurrent laryngeal nerve has different relationship with the inferior thyroid artery and their branches and this make it more vulnerable to injury during thyroidectomy and this percentage vary from 0% to 13%. Investigation which done before the operation include :

- Indirect laryengoscopy because its found that 3% to 5% from patient have paralysis in one of the vocal cords due to virus infection during childhood and may presented without anysymptoms and these investigations are also important in recurrent goiter and in recent changes of voice. The recurrent laryngeal nerve injury during thyroidectomy may be complete or incomplete injury to one or the two

recurrent laryngeal nerve and this affect the adductor and abductor fibers. It is found that the adductor fibers are more vulnerable to injury than the abductor fibres.

The right recurrent laryngeal nerve is more suspected to injury than the left because of the obliquity of the nerve and the percentage of injury increase with recurrent goiter or the type of the operation weather it is subtotal or total thyroidectomy and the percentage of injury may be affected by the relationship between the inferior thyroid artery and the recurrent nerve and also by the facial attachment to it or the nerve is recurrent or non recurrent in rare cases. The injury may be also affected by the type of the surgeon weather it is a general surgeon or E.N.T. surgeon or the type of the disease in the thyroid gland.

Prophylactic management to avoid injury of the recurrent nerve during thyroidectomy by awareness of the anatomy of the nerve and its abnormality and identifying the nerve during the operation specially in the upper third of its course, although some surgeon consider that it is risky to identify the nerve during operation as the injury is suspected to in this case.

Electromyography of the recurrent laryngeal nerve during operation is very important to avoid injury of recurrent laryngeal nerve and this by direct or indirect electrod on the recurrent laryngeal nerve management of recurrent laryngeal nerve injury after thyroidectomy depend on the type of injury bilateral or unilateral and tracheostomy is very important to avoid obstruction of the upper airway.

Lateralization of the vocal cord by arytenoidectomy either surgical or endoscopic for treatment of bilateral abductor paralysis and medialization of the vocal cord in adductor paralysis may done. Tefelon injection is used also for medialization of the vocal cord.

In the last few years laser has been used for arytenoidectomy. The hope in the future is the success of reinnerviation of the laryngeal muscles by using a nerve-muscle pedicle for grafting of the interinsic muscle of the larynx.