Thyroidectomy under local anaesthesia: experience with giant goitres

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Introduction
The first successful thyroidectomy on record appears to have been performed in about 952 A.D. in Zahra, an Arab city of Spain by a Moorish physician, Albucassis. The extirpation of thyroid gland for goiter typifies, perhaps better than any operation, the supreme triumph of the surgeon’s art. More than 80% of thyroid swellings are operated upon primarily for cosmetic reasons.

Thyroidectomy is usually performed with general endotracheal anaesthesia. However, in many developing countries, because of the severe shortage of anaesthetists, anaesthetic drugs and equipment it can be done under local anaesthesia with acceptable results. Giant goiter is an enlargement of the thyroid gland not less than 10g/kg body weight.

Previous reports of thyroidectomy under local anaesthesia were not for giant goiters. Ajao in 1979 wrote: “up to a certain limit the more prominent the thyroid gland is, the easier it is to remove under local anaesthesia”. This is a prospective study of thyroidectomy done for giant goiters in a semi-urban hospital (Nakowa Hospital, Yauri, Kebbi State, Nigeria). The aim of this study was to determine the feasibility, safety, effectiveness and acceptability of local anaesthesia for thyroidectomy. It was also meant to assess any difficulty or complication specifically associated with the procedure.

Materials and methods
All cases of thyroidectomy done for giant goiters under local anaesthesia in Nakowa Hospital, Yauri between January 1990 and December 1994 were included in this prospective study. Only cases of simple goiter without retrosternal extension were included. Toxic goiters and malignant goiters were excluded. After giving informed consent, the patients received premedication of intramuscular pentazocine and diazepam. They had an intravenous infusion in place and patients had postoperative analgesia. One patient had a transient hoarseness of the voice and continued 6 hours after the operation and patients had postoperative analgesia. One of them had to be converted to general anaesthesia hence only nine form the basis of this communication. Out of the nine patients one had intramuscular Tramal 100mg continuously 6 hours after the operation and patients had postoperative analgesia. One patient had a transient hoarseness of the voice and redundant skin that had to be excised later. There was no mortality. Histologically all of them were colloid goitres.

Results
Over a period of five years (1990-1994), ten patients with giant goiters who gave consent for their thyroidectomy to be done under local anaesthesia were included in this study. One of them had to be augmented using ketamine; the remaining 9 were done under local anaesthesia. They were all females aged between 40 and 62 years (mean 50.8 years). Table 1 shows the clinical details. Figs 1 and 2 show one of the patients pre- and post-op. The weight of the gland removed ranged from 700g to 3,500g and the weight of the patients ranged from 60 to 72kg. They all tolerated subtotal thyroidectomy under local anaesthesia satisfactorily. One of them had to be converted to general anaesthesia because of the possibility of burrowed skin from the upper part of the chest in patients with giant goiters. After deepening the incision down to the platysma, the upper flap is raised as far as the thyroid notch and the lower flap down to the suprasternal notch. The investing fascia is then incised vertically in the midline which can sometimes be difficult to identify because of the distorted anatomy. After separating the strap muscles at the midline, traction has to be done with care. Mobilization of the thyroid gland may not be difficult in these giant goiters but sometimes difficulty is encountered and the strap muscles may have to be divided, and repaired later. Extra care is required in thyroid gland mobilization especially when done under local anaesthesia and traction on the trachea should be gentle to avoid laryngeal spasm. Routine identification of the blood vessels (including new unusual vessels in some of these giant goiters), ligation and division is done before excision of the gland. Usually the superior thyroid vessels were ligated close to the thyroid gland to avoid injury to the superior laryngeal nerve and the inferior thyroid vessels away from the thyroid gland to avoid injury to the recurrent laryngeal nerves.

There was continuous conversation with the patients during the procedure. This encouraged phonation and ensured the integrity of the recurrent laryngeal nerve. After securing haemostasis, drain was left insitu and wound closed, using subcuticular nylon for the skin.
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Surgeons in training in developing countries should be encouraged to have adequate exposure and training in local anaesthesia and regional techniques. This is to avoid a situation where surgeons in peripheral hospitals are reluctant to perform thyroidectomy, with the excuse that there is no anaesthetist. These patients will then be left with these alternatives: (a) to travel over long distances, in many cases, to teaching hospitals where the waiting period may be over six months (b) to live with the social stigma if the patient cannot afford the expenses of traveling to a teaching hospital. This procedure is safe, simple, acceptable and cost-effective in our experience. The more prominent the thyroid gland is, the easier it is to remove under local anaesthesia provided the surgeon is meticulous, and understands that with giant goiters, the normal anatomy is distorted and numerous new vascular channels are always present.

The more prominent the thyroid gland is, the easier it is to remove under local anaesthesia provided the surgeon is meticulous, and understands that with giant goiters, the normal anatomy is distorted and numerous new vascular channels are always present. This procedure is recommended for carefully selected patients to be handled by experienced surgeons in peripheral hospitals.

**References**