Non Robotic Videoscopically Assisted Facelift (Retro-Auricular) Approach to Hemithyroidectomy in Selected Cases

ALAA M. EL-ERIAN, M.D.
The Department of Surgery, National Institute of Diabetes & Endocrinology (NIDE), Cairo

Abstract

Background: Facelift (retro-auricular hairline incision) approach is a valuable remote access thyroidectomy approach to eliminate neck scar, however, it is described with the use of the very expensive high technology of robot assistance that is unavailable everywhere and requires extensive training.

Aim: Is to explore the feasibility of facelift approach to thyroidectomy in a non-robotic way with only videoscopic assistance.

Patients and Methods: 15 patients with solitary thyroid nodule with a mean age of 29.66±7.1 y, F:M=4:1 underwent facelift thyroidectomy. Inclusion criteria were; solitary thyroid nodule <4cm, young females preferring absence of a neck scar, benign FNAB, thyroid cyst indicated for hemithyroidectomy, Normal vocal cords function on laryngoscopy. Exclusion criteria were: Previous neck surgery or facelift surgery, substernal extension, bilateral lobe lesions, associated cervical lymph node enlargement, evidence of thyroiditis, severe morbid obesity (BMI >35). A surgical pocket is created by raising a subplatysmal flap from a retro-auricular hairline incision till the midline of the neck. The pocket is maintained with the use of long bladed retractors and the thyroid gland is exposed by opening the carotid triangle and dividing superior belly of omohyoid. The gland is devascularised and retrieved under videoscopic assistance with the use of ligasure device and conventional laparoscopic instruments. Procedural assessment is achieved by recording operative and postoperative data.

Results: The operative procedure succeeded in all cases with no conversion to cervicotomy approach. Time of creating the surgical pocket was 33±3.3m and total operative time was 106±12m. RLN was identified and safeguarded in all cases, SELN was identified in only 8/15 cases, and at least one parathyroid gland was identified in all cases but both glands were identified in 9/15. In none of the cases lobe rupture or fracture occurred. None of the patients developed laryngeal nerve injury or Hypoparathyroidism and in none neck visceral or major vascular injury occurred. Intraoperative blood loss was minimal, postoperative haematoma occurred in two cases and seroma in another two. In none flap necrosis or wound infection occurred, however, keloid scar occurred in only one case and hairline alopecia in another one. Postoperative pain was well tolerated, mean VAS score=2.8±2 at 6 hours and 2.3±2.1 at 24 hours. Ear parathesia occurred in two patients. Mean hospital stay was 48.8±13.1. All patients were satisfied and pleased with good to excellent cosmesis.

Conclusion: Facelift thyroidectomy is feasible and safe in a non-robotic way under video-assistance with the use of high energy activated devices, conventional laparoscopic instruments and long bladed retractors.

Key Words: Facelit – Thyroidectomy – Remote access.

Introduction

CONVENTIONAL thyroidectomy as described by kocher continued to be done the way it is firstly done for more than a century through a classic kocher incision which is a generous low collar incision ranging from 6-10cm in length in the past decade a tremendous shift in the surgical approaches to the thyroid gland has occurred in the prevailing era of minimally invasive surgery with the rising needs of the market for a scarless surgery which is of consideration here, because of most patients undergoing thyroid surgery are mainly young females for whom aesthetic issues are of great concern, especially in an exposed area like the neck. Such new approaches ranged from completely endoscopic (presternal, periareolar and axillary) approaches [1-3] to video-assisted gasless thyroidectomy through cervical mini-incision popularized by Miccolli et al., [4] or through a larger incision at a distant site like the axilla [5], and non-endoscopic mini-cervicotomy thyroidectomy which is a conventional thyroidectomy through mini-Kocher incision [4].

In Korea, Chung and his colleagues [7] have proposed remote access trans-axillary approach to the thyroid gland and succeeded in performing...
trans-axillary robot-assisted thyroidectomy as a
gasless technique depending upon a fixed retractor
system with the assistance of da Vinci robotic
surgical system and gained good results in large
number of patients. Such concept has gained ac-
ceptance in USA where the same approach was
tried to replicate the results of Chung and his team
but unfortunately dramatic complications occurred
like brachial plexopathy, oesophageal perforation,
excessive blood loss and incomplete removal of
the thyroid gland [8], this may be interpreted by
the difference of american population, being larger
with bigger necks and larger disease burden unlike
Korean population with shorter necks and smaller
disease burden [8-10]. Also the unfamiliar approach
that splits the two heads of sternocleidomastoid
muscle (SCM) and the obstacle of the clavicle
which entails specific positioning that makes bra-
chial plexus at risk of stretch injury and angulates
the oesophagus with increased risk of its accidental
perforation during operative procedural manipula-
tions [8-10].

American surgeons considered such complica-
tions risks together with the wide field of dissection
and the lengthy operative time to be a big price to
pay to eliminate a neck scar, so some American
surgeons; Terris et al., [11], Singer et al., [12] and
Walvekar et al., [13] have thought of a new remote
access approach to thyroidectomy that should be
at a shorter distance to the thyroid compartment
with a more familiar anatomical dissection planes,
so they advocated the retroauricular or facelift
incision approach depending upon previous works
by Terries et al who succeeded to perform parotide-
tomy via a retroauricular or facelift incision [14]
and Roh who removed upper neck masses including
submandibular sialoadenectomy via retroauricular
hair line incision but removal of lower neck com-
partment components like thyroid gland was not
tried [15,16]. Added to the fact proven in the labo-
atory that superior to inferior approach to the
thyroid gland is safer and faster than trans-axillary
approach [17], the american investigators firstly
executed this novel approach through preclinical
studies in cadaveric models applying the same
principles of Chung’s procedure of fixed retractor
system and endoscopic assistance using da Vinci
surgical robot [18] or by using only video-assistance
[13], thereafter, Terris and colleagues [11] have
proceeded to clinical implementation of this novel
approach and succeeded to perform18 robotic
assisted thyroidectomies through retroauricular
facelift incision confirming the feasibility and
safety of this novel approach depending upon the
synthesis of the principles of previous success of
retroauricular approach to the parotid and upper
neck masses [14-16], video-assisted gasless thy-
roidectomy popularized by Miccolli et al., [4] and
the fixed retractor system introduced by Chung
and his team with the assistance of da Vinci
robotic surgical system [1]. However da Vinci
robotic surgical system is an expensive very so-
phisticated technology that is not available every-
where especially in developing countreies and
extensive advanced training on this high-tech device
is a prerequisite [19]. So, in this study we aimed at
implementing the same novel technique of face-
lift thyroidectomy in a non-robotic way with the
aid of conventional long bladed retractors instead
and the use of advanced energy technology device
(Ligasure™) under video-endoscopic assistance.

Patients and Methods

Ten consecutive patients scheduled for hemi-
thyroidectomy were enrolled in the study after the
approval of the ethics committee of the general
organization of teaching institutes and hospitals
and signing an informed consent to undergo remote
access thyroidectomy through post-auricular
(facelift) incision from December 2011 through
January 2013 in the Department of Surgery, Na-
tional Institute of Diabetes & Endocrinology
(NIDE).

Clinico-pathologic criteria are shown in Table (1):
Inclusion criteria were:
1- Bilateral lobe lesions.
2- Patients with solitary thyroid nodule indicated
for surgery with the size of the nodule not ex-
ceeding 4cm.
3- Young females preferring absence of a neck
scar.
4- Benign pathology by FNAB.
5- Thyroid cyst indicated for hemi-thyroidectomy.
6- Normal vocal cords function on preoperative
laryngoscopy.

Exclusion criteria were:
1- Previous neck surgery.
2- Previous facelift surgery.
3- Substernal extension.
5- Associated cervical lymph node enlargement.
6- Evidence of thyroiditis (proved radiologically
or by Ab assay).
7- Abnormal vocal cords functions on preoperative
laryngoscopy.
8- Severe morbid obesity (BMI >35).
9- Associated major co morbidities that precludes
prolonged anaesthesia.
**Surgical procedure:**

**Positioning:**

Patient is positioned supine on the operative table with the head rotated away from the side of the procedure.

**Preoperative shaving and marking:**

About 1 cm of hair is shaved along the occipital hair line, then marking the incision line along the post-auricular sulcus and continuing on the occipital hairline inside the shaved area. Also marking the angle of the mandible, the v notch of thyroid cartilage, the anterior border of SCM muscle, the external jagular vein and the thyroid lobar bulge. Fig. (1). Injection of epinephrine marcaine along the incision line (to obtain bloodless skin incision) is performed after sterilization and draping.

**Incision:**

A perpendicular skin incision is made along the post-auricular crease and continued in the occipital hairline inside the shaved area.

**Steps:**

A subplatysmal plane is developed and proceed ed towards the SCM muscle superficial to the external jagular vein and greater auricular nerve, till identifying the anterior border of SCM. Care should be taken on approaching the anterior border of SCM because a large communicating vein may be encountered along the anterior border of SCM connecting the anterior j agular vein with the common facial vein, this vein may be even larger than the internal jagular vein. (Fig. 2-A,B). At this step a long bladed Dever retractor is used to undermine such long flap and a forward viewing 5mm laparoscope may be used to proceed on raising the flap till the midline of the neck under video-endoscopic guidance.

After identifying the anterior border of SCM the investing layer of deep cervical fascia is incised to open the carotid triangle and enter the thyroid compartment. The carotid triangle is identified, its boundaries are; the anterior border of the upper two thirds of SCM posteriorly, the superior belly of omohyoid muscle anteriorly and the posterior belly of digastric muscle superiorly (Fig. 3-A). Opening the carotid triangle exposes only the upper pole and superior thyroid vessels and to gain access to the lower pole we divide the superior belly of omohyoid muscle to enter the lower neck space (Fig. 3-A). Once the whole of the thyroid compartment is exposed the surgical view is maintained by advancing the long bladed Dever retractor to retract the sternothyroid and sternohyoid muscles upward and medially while the SCM muscle is retracted downward and laterally. The 0 degree 5mm laparoscope provides excellent visualization of the field. A blunt dissector is used to dissect around the superior pole opening the cricothyroid space (between the medial aspect of the superior pole and the cricothyroid muscle) then a meryland grasper is used by the non-dominant hand to grasp the superior pole and a blunt tip ligasure sealer-divider laparoscopic instrument (ligasure blunt tip 5mm) is used to seal and divide the superior thyroid vessels (3-B,C). The upper pole is mobilized away from the inferior constrictor muscle and retracted downward and laterally (3D), at this step the external branch of the superior laryngeal nerve can be identified, then the upper pole is retracted ventroinferiorly and the thick pretracheal fascia supero-inferiorly toward the inferior pole with the ligasure instrument helping in further mobilization of the thyroid lobe. At this step the superior parathyroid gland may be identified, and so if encountered it is harmlessly dissected postero-inferiorly away from the thyroid lobe with its intact vascular pedicle. The middle thyroid vein is encountered, sealed and divided adding to more mobilization of the thyroid lobe with the superior pole retracted laterally towards the wound surface we bluntly dissect in the subisthmic plane along the ventrolateral aspect of the trachea then the isthmus is divided with the blunt tip ligasure instrument. Now the upper and mid-portions of the thyroid lobe became completely mobilized and the thyroid lobe became only fixed inferiorly by the inferior vascular pedicle (inferior thyroid vessels) with the thyrothymic ligament and laterally by the lateral vascular pedicle (inferior thyroid artery) with the ligament of Berry. With applying upward and lateral traction on the superior pole of the bulky thyroid lobe because of the globular contour of the nodule or the cyst can be delivered out from the thyroid compartment with the use of a metal tongue depressor acting as a lever bringing the thyroid lobe close to the wound surface (Fig. 4). The inferior parathyroid gland is identified and safely dissected inferiorly with its vascular pedicle, the inferior thyroid vessels with the thyrothymic ligament are sealed and divided with exposure of the antrolateral aspect of the trachea. Delivery of the thyroid lobe is now complete (Fig. 4), attached only by the lateral vascular pedicle and the tough Berry’s ligament and it became more closer to the wound surface, thus allowing the critical lateral dissection to be undertaken close to the wound where the inferior thyroid artery, recurrent laryngeal nerve and parathyroid glands were identified. Inferior thyroid artery is sealed and divided close to the gland (its secondary
branches), the recurrent laryngeal nerve is identified in the area of tracheo-esophageal groove and in close proximity of the ligament of Berry which is sealed and divided with the nerve under vision. The thyroid lobe is extracted out of the surgical pocket and the thyroid surgical bed is thoroughly inspected through video-endoscopic visualization to ensure adequate haemostasis (Fig. 5). The wound is closed in layers after placing a large sheet of surgicel in the thyroid compartment.

Procedural assessment by recording operative and postoperative data in the form of; time of creating the surgical pocket, total operative time, visualization of laryngeal nerves and parathyroid glands, presence of Kocher communicating vein, intraoperative blood loss, laryngeal nerve injury, parathyroid injury, neck visceral injury, major neck vascular injury, brachial plexus injury, postoperative haematoma/Seroma, flap necrosis, ear parathesias, postoperative pain, cosmesis and patient satisfaction.

Results

Fifteen patients met the inclusion criteria of the study were offered this clinical approach, 12 females and 3 males with a mean age 29.66±7.1 years (range, 20-41y) and BMI of 27.1±2.9 (range, 25-30). There were 9 right hemithyroidectomies and 6 left hemithyroidectomies. Preoperative FNAC revealed, colloid nodule/colloid cyst in 6 cases, nodular hyperplasia in 4, follicular neoplasm in 4 and Hurthle lesion in one case. The final pathology revealed 6 colloid nodule/colloid cyst, 3 nodular hyperplasia, one toxic nodule, 4 follicular adenoma, one Hurthle cell adenoma. The mean nodule size was 3±0.8. The lesion (nodule/cyst) was in the lower pole in 9 cases, mid-lobar in 4 cases and 2 in the upper pole. Table (1) shows the clinico-pathologic features of the study patients. Procedural time was divided into, time of creating the surgical pocket (time from skin incision till exposure of gland substance) which was 33 minutes on average (33±3.3, range=22-25 minutes) and total operative (from skin incision to skin closure) which was 106 minute on average (106±12, range=90-130 minutes). RLN was identified and safeguarded in all cases, SELN was identified in only 8 cases (53.3%), and at least one parathyroid gland was identified in all cases but both glands were identified in 10/15 (66.6%). In none of the cases lobe rupture or fracture during surgical manipulation has occurred. In regard to complications; none of the patients developed transient or permanent laryngeal nerve injury or Hypoparathyroidism and in none neck visceral (laryngotrachea or oesophagus) or major vascular injury has occurred. Intraoperative blood loss was minimal, postoperative haematoma occurred in two cases that resolved spontaneously with repeated aspirations and seroma occurred in two cases that were managed conservatively by repeated aspirations. In none of the cases flap necrosis or wound infection occurred, however, keloid scar occurred in only one case and hairline alopecia in another one. Postoperative pain was well tolerated, mean VAS score=2.8±2.1 (range, 1-8) at 6 hours and 2.3±2.1 (0-7) at 24 hours. Ear parathesia occurred in two patients. Mean hospital stay was 48,8±13.1 (range, 36-72 hours) and Mean follow-up period was 8.3±3.1 (range, 6-12 months). All patients were satisfied and pleased with the end result and cosmetic results were good to excellent by the patient and a second neutral person (6-A,B,C,D & 7-A,B).
Fig. (2-B): Another case with the surgical pocket maintained by long bladed retractor showing anomalous communicating Kocher vein along SCM anterior border (No. 1), greater auricular nerve along with the external jugular vein on SCM (No. 2), transverse cutaneous cervical nerve (No. 3).

Fig. (3-A): Exposure of the superior thyroid pole from within the carotid triangle. 1=SCM muscle. 2=Superior thyroid pole. 3=Devided superior belly of omohyoid muscle. 4=The long bladed retractor maintaining the surgical pocket.

Fig. (3-B): Grasping the superior thyroid pole to control the superior thyroid vessels. 1=Superior thyroid vessels. 2=Superior thyroid pole.

Fig. (3-C): Sealing and dividing of superior thyroid vessels with the use of high energy technology device (Ligasure blunt tip 5mm).

Fig. (3-D): Dislocation of the superior pole after sealing and dividing of the superior thyroid vessels. 1=Carotid triangle. 2=Superior thyroid pole.

Fig. (4): Delivery of the whole of the thyroid lobe out of the carotid triangle to the wound surface after devascularisation of the lower pole. 1=Superior thyroid pole. 2=Lower pole. 3=SCM muscle. 4=Long bladed retractor.

Fig. (5): The surgical field after hemithyroidectomy via facelift approach showing: 1=RLN. 2=Bared trachea.
Fig. (6-A): Immediately postoperatively after right hemithyroidectomy via videoscopic facelift approach.

Fig. (6-B): Same patient, one month postoperatively after right hemithyroidectomy via videoscopic facelift approach.

Fig. (6-C): Same patient, 4 month postoperatively after right hemithyroidectomy via videoscopic facelift approach showing hidden scar postauricular and inside the hairline.

Fig. (6-D): Same patient, front view postoperatively after right hemithyroidectomy via videoscopic facelift approach showing absence of neck scar.

Fig. (7-A): Another patient 2 month postoperatively after left hemithyroidectomy via videoscopic facelift approach showing hidden scar postauricular and inside the hairline.

Fig. (7-B): Same patient, front view showing absence of neck scar.
Table (1): Demographic and clinicopathologic criteria of the study patients.

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>Mean±SD (29±7.1)</th>
<th>Range (20-41yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender ratio (F:M)</td>
<td>4:1</td>
<td></td>
</tr>
<tr>
<td>Nodule size (cm)</td>
<td>Mean±SD (3±0.8)</td>
<td>Range (1.5-4cm)</td>
</tr>
<tr>
<td>BMI</td>
<td>Mean±SD (27.1±2.9)</td>
<td>Range (25-30)</td>
</tr>
<tr>
<td>FNAC</td>
<td>Colloid nodule (6 cases)</td>
<td>Nodular hyperplasia (4 cases)</td>
</tr>
<tr>
<td>Gross nature of nodule</td>
<td>Solid nodule (12 cases)</td>
<td>Complex cyst (3 cases)</td>
</tr>
<tr>
<td>Nodule/Cyst lobar location</td>
<td>Lower lobar (9 cases)</td>
<td>Mid-lobar (4 cases)</td>
</tr>
<tr>
<td>Postop.pathology</td>
<td>Colloid nodule/cyst (6 cases)</td>
<td>Nodular hyperplasia (3 cases)</td>
</tr>
</tbody>
</table>

Table (2): Operative and postoperative data of the study patients.

<table>
<thead>
<tr>
<th>Operative time (Min.):</th>
<th>Mean±SD</th>
</tr>
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<tbody>
<tr>
<td>Surgical pocket creation</td>
<td>33±8.3 (22-45)</td>
</tr>
<tr>
<td>Total</td>
<td>106±12(90-130)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laryngeal n. identification:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>RLN</td>
<td>15/15 (100%)</td>
</tr>
<tr>
<td>ESLN</td>
<td>5/15 (33.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parathyroid gl. Identification:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>One gland</td>
<td>15/15 (100%)</td>
</tr>
<tr>
<td>Both glands</td>
<td>10/15 (66.6%)</td>
</tr>
</tbody>
</table>

| Anomalous communicating (Kocher’s) vein | 5/15 (33.3%) |
| Operative blood loss | Minimal |
| Thyroid lobe rupture | NIL |

<table>
<thead>
<tr>
<th>Complications:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Laryngeal n. injury</td>
<td>NIL</td>
</tr>
<tr>
<td>Sympathetic n. injury</td>
<td>NIL</td>
</tr>
<tr>
<td>Neck visceral injury</td>
<td>NIL</td>
</tr>
<tr>
<td>Neck major vascular injury</td>
<td>NIL</td>
</tr>
<tr>
<td>Haematoma</td>
<td>1/15 (6.6%)</td>
</tr>
<tr>
<td>Seroma</td>
<td>2/15 (13.3%)</td>
</tr>
<tr>
<td>Wound infection</td>
<td>NIL</td>
</tr>
<tr>
<td>Flap necrosis</td>
<td>NIL</td>
</tr>
<tr>
<td>Ear parathesia</td>
<td>2/15 (13.3%)</td>
</tr>
<tr>
<td>Hair line alopecia</td>
<td>1/15 (6.6%)</td>
</tr>
<tr>
<td>Keloid</td>
<td>1/15 (6.6%)</td>
</tr>
<tr>
<td>Conversion to open surgery</td>
<td>NIL</td>
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</table>

<table>
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<tr>
<th>Postoperative pain (VAS):</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>After 6 hours</td>
<td>2.8±2.1 (1-8)</td>
</tr>
<tr>
<td>After 24 hours</td>
<td>2.3±2.1 (0-7)</td>
</tr>
<tr>
<td>Postoperative stay (hours)</td>
<td>48.8±13.1 (36-72)</td>
</tr>
<tr>
<td>Patient satisfaction</td>
<td>All satisfied</td>
</tr>
<tr>
<td>Cosmetic outcome</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

**Discussion**

Thyroid gland surgery has been considerably developed over the past few decades, so that most of the patients can guarantee removing their thyroids with no hazard to their laryngeal nerves or parathyroid glands. An increasing public awareness has therefore been shifted towards improving cosmetic outcomes. Consequently, the past ten years have witnessed minicervicotomy incisions, new emerging technologies promotions to facilitate minimal access techniques and eventually ending in even remote access approaches to the thyroid compartment. However, because even traditional long Kocher incision (especially if centred on the lower neck skin crease) usually heals satisfactorily and may be virtually unnoticeable and on the other hand, a poor cosmetic outcome may be even associated with minimally invasive techniques. So, critics have arisen against efforts to improve cosmetic outcomes of thyroid surgery. Furthermore, having no neck scar is a tempting option for most of the patients undergoing thyroid surgery, therefore, remote access techniques have gained traction. A number of remote surgical portals have been described, including: presternal, axillary and retroauricular. The obvious benefits of eliminating neck scar must be balanced against the costs (morbidity and economic costs) associated with the more invasive and costly remote access techniques. Chung and his colleagues [7] in Korea have succeeded in performance of transaxillary thyroidectomy using robot technology and video-endoscopic assistance. They have been able to achieve efficient surgical times and low complication rates. However, challenges have faced high volume skilled thyroid surgeons who tried to apply the same technique in north American population [8,20]. Therefore, other investigators in USA were stimulated by the disappointing experience with robotic axillary thyroidectomy to establish another easier and safer remote access technique. They thought of the facelift (retroauricular hair line incision) approach after adopting a synthetic view of different concepts depending upon some surgical facts that were; the gasless minimally invasive video-assisted thyroidectomy popularized by Miccoli etal in Italy [4], the use of facelift incision for parotidectomy described by Terris et al., [14], the use of retroauricular hair line incision for submandibular saloadenectomy introduced by Chung et al., [1] and lastly the feasibility of superior to inferior dissection of the thyroid [17]. After con-
firming of procedural feasibility and safety of facelift thyroidectomy in cadavers [12,13]. Clinical safety and feasibility in humans were assessed by Terries et al., [11]. However, owing to the expensiveness of robot assisted surgery [19], the need for extensive training in such a technology and its unavailability everywhere especially in developing countries, we advocated the technique of non-robotic gasless video-assisted thyroidectomy utilizing conventional surgical and laparoscopic instruments that are routinely available in any tertiary surgical facility. In this non-robotic technique of gasless video-assisted thyroidectomy the surgical pocket is maintained with the use of long bladed retractors and the control of thyroid vascular pedicles and fascial attachments with high energy technology devices (Ligasure or Harmonic). The principal benefits of facelift thyroidectomy in general, over transaxillary thyroidectomy are, easier positioning, shorter distance to the thyroid and the more natural surgical approach for neck surgeons who are more accustomed with the surgical-anatomical planes of the neck [11,12]. Also, there is less risk for brachial plexopathy and the distance between hair line incision and the superior pole of the thyroid is approximately 6cm which is shorter than the distance associated with transaxillary thyroidectomy [12]. Such reduced dissection area and thence lesser tissue trauma is associated with more rapid wound healing and lesser postoperative pain. In our study the postoperative pain was well tolerated as measured by VAS. An important disadvantage of our non-robotic technique is the need for high additional assistance to hold the endoscope and the external retractors, in addition, maintaining the surgical pocket with manual retraction is associated with repeated interruption of the surgical view due to uneasiness of retraction through a long deep pocket and exhaustion of the assistant, thus influencing the smoothness of the sequential progression of the surgical procedure with the resulting prolongation of operative time. Another disadvantage of the facelift technique whether robotic or non-robotic is that the path of dissection requires that the greater auricular nerve to be identified and protected and in spite of this most of the patients usually experience temporary or even long term dysthesia along the distribution of the nerve, however, sensation returns with time and hasn’t been proven to be bothersome [11]. In the contrary, only two of our patients of the study reported ear lobe parasthesia and this might be interpreted in view of adopting the technique of not dissecting the nerve or even suspending it from its substratum and trying to leave a layer of fibrofatty connective tissue surrounding it. Also in the path of flap dissection in this facelift approach we noticed here in this study that we may encounter a large vein along the anterior border of SCM called Kocher vein, which is an anomalous communicating vein between the posterior facial vein and anterior jugular vein that may in some cases be as large as the internal jugular vein [21]. So, care should be exercised during flap dissection to search for such anomalous vein to avoid its injury that may lead to troublesome bleeding. Such vein was encountered and safeguarded in 5 of our study cases (33.3%). Lastly the theoretical possibility of distal flap loss associated with facelift flap especially in diabetics and smokers wasn’t a problem because we excluded such category of patients and care was exercised to dissect in the subplatysmal plane to include a sheet of platysma muscle with the flap to maintain its adequate blood supply. In conclusion, facelift (retroauricular hair line incision) approach to thyroidectomy is a valuable addition to the field of thyroid surgery in the recent era of remote access thyroid surgery which is in spite of being described with the use of the advanced costly technology of robot assistance, it is feasible to be efficiently and safely performed in a non-robotic way with video-endoscopic assistance and the use of conventional laparoscopic instruments and long bladed retractors.

References


