Validety of total laryngectomy Under local anaesthesia

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ABSTRACT

BackgroundCarcinoma of the larynx represent 10% of head & neck malignancies. The treatment of advanced carcinoma of larynx may include partial or total laryngectomy, with or without laser , radiotherapy,and or chemotherapy .
Carcinoma of the larynx usually affect old age , heavy smoker with possible risk of pulmonary diseases & ischemic heart disease , which add risk to the general anaesthetic complication operative & postoperative -
Objectives this study was designed to assess the feasibility of total laryngectomy under local anaesthesia in medically unfit patients for general anaesthesia & to re-establish practice doing total laryngectomy under local anaesthesia in those patients.

Methods a prospective study on 12 patients who underwent total laryngectomy under local anaesthesia in the otolaryngology department at Al-Jirahat hospital over a period from September 2007 to the end of July 2010.
Results all patients tolerated the surgical procedure under local anaesthesia without disturbing the general condition of the patient, or the technique of surgery , with good postoperative recovery & early mobility of patient .
Conclusion total laryngectomy can be done under local anaesthesia in case the patient is medically not fit for general anaesthesia , & in some other selected cases .
Key words total laryngectomy, carcinoma , larynx, local anaesthesia .

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Introduction

Carcinoma of the larynx is a curable tumor , so it places upon the clinician a much greater responsibility than usual as careful evaluation and treatment offer a probability of cure more than other sites in head and neck .[1]
The usual histopathology is squamous cell carcinoma , and for T3 and T4 tumors the recommended treatment is combination of surgery , radiotherapy , and adjuvant chemotherapy .[2] The surgical treatment in this case is total laryngectomy [2] .
Local anaesthesia had been used for many surgical procedures in our field .
Its proper use as a dose and site of infiltration made many operations possible to be done when general anaesthesia is contraindicated .[4]
The local anaesthesia is done by infiltration cervical plexus region with xylocaine 2% .[3]

Contraindication for local anaeshesia include :

(1) patient refusal despite full discussions
(2) full anticoagulation or coagulopathy
(3) trauma , burn or infection over the site of injection
(4) uncorrected metabolic derangement .[5]

Steps of total laryngectomy are just the same as under general anaesthesia and these are :
U – shaped incision , dissection along paracarotid tunnels , division of infrahyoid strap muscles , division of suprahyoid muscles , division of isthmus of thyroid gland , ligation of superior thyroid artery of thyroid lobe decided to be removed with ligation of its inferior pedicle , with release of contralateral thyroid lobe , superior laryngeal pedicles tied off on both sides , division of inferior constrictor muscles from thyroid ala , opening of trachea if no preliminary tracheostomy present , delivery of epiglottis through suprahyoid dissection , resection of the larynx with separation from hypopharynx and cervical esophagus , pharyngeal repair by 3 layers ,

creation of tracheostome , skin closure , leaving radivac drain .[5]

Method

this prospective study was carried out in Al-jirahat Hospital for the period between September 2007 and end of July 2010. All the patients had squamous carcinoma of the larynx stage three and four , all were not fit for general anesthesia because of advanced ischemic heart disease proved by echocardiogram and treadmill test. The patients were carefully selected regarding their psychological condition.

Application of local anaesthesia

The preparation of the patient for local anaesthesia is the same as in general anaesthesia

Premedications were used in some patients (Diazepam 10 mg. slow intravenous infusion .) , and pethidine as analgesic 50 mg. every hour

The local anesthesia consist of 2% lidocaine HCL (OBARCAINE , Syria) at a dose of 7mg / kg body weight . This dose is divided into 3 parts ,

The 1st part is infiltrated into the skin of the cervical plexus (by drawing an imaginary line from the cricoid cartilage crosses the posterior border of sternornastoid muscle

2nd part used as pieces of gauze soaked with lidocaine put locally on deep tissue of neck

3rd part as oral spray 10% (xylocaine , Astra Zenica , Sweeden) during repair of the pharynx ,

The patient is monitered by cardiorespiratory monitoring and supervision of our senior anaesthetist .

Surgical procedure

as described in the introduction Surgery goes as in general anesthesia with the benefit of the patient cooperation by asking him to turn his head on need , and we preffered to have a " gentle conversation with the patient every now and then.

Total thyroidectorny was done in two patients because of suspicion of thyroid gland involvement by the tumour .

We started the nasogastric tube feeding in the day 0 of surgery.

Results

Table (1) : Patient characteristics

All our patients were elderly male

Number	12
Age	68-72 ,mean age 75
Sex	All male 100%

Table (2) clinical conditions demanding local anaesthesia(unfit for general anaesthesia

Clinical conditions	no. of patients
Ischemic heart disease , chronic bronchitis , emphysematous chest	9
Ischemic heart disease	2
Cerebrovascular accident	1

Table (3) : tumour stage

All patients had locally advanced tumour

Stage	Number of patients	Percentage
T 3	8	66%
T 4	4	33%

Table (4) : patient with previous radiotherapy and stage of tumour

2 out of 12 patients T4 tumour and had received radiotherapy

Number of patients	2
Stage of tumour	T4

Table (5) : 6 out of 12 patients (50 %) had smooth post-

Total number of patients	**%**	**No Complications**	**%**	**Complications**	**%**
12	100%	6	50%	6	50%

Table (6) : shows the complications

The complication	**No. of patients**	**%**
Fistula	3	25%
Vomiting	1	8.3%
Wound infection	1	8.3%
Hypoparathyroidism	1	8.3%

11 patients were comfortable , 1 patient had vomiting during operation and managed with antiemetic drug and operation completed with local anaesthesia as with other patients

Table (7) : patients acceptance

Number	Acceptance
11	Comfortable with operation
1	vomitting

Discussion

In this series of 12 patients had total laryngectomy with good short term results , even though fistula developed in 3 patients (25%) . this percentage falls within the reported incidence of fistula (4-65%)[10,11,12,13,14]
most of them healed after conservative treatment for 2-4 weeks .
Ahmed, (2010) reported an incidence of pharyngocutaneous fistula of 38-88%.[8]
Haider;(2005) reported an incidence of pharyngocutaneous fistula of 33.3% .[15]
Vertaniemia , T-A et al (2001)in his retrospective study there were 24 cases of pharyngocutaneous fistula out of 133 patients with total laryngectomy , giving an incidence of 15% .[16]
The use of nasogastric tube feeding after total laryngectomy is a routine practice . This concept developed from concern that early initiation of oral feeding might stress the suture line and result in pharyngocutaneous fistula.[17]

In this series we started early nasogastric tube feeding in day 0.While the routine NG tube feeding after total laryngectomy under general anaesthesia is after 48 hours .
In this series early mobilization of the patient in comparison to postpond mobility of patient if surgery done under geneal anaethesia at least 12 – 24 hours.[14]
We always encourage the patient to move early as possible after the 1st 24 hours in major surgery to prevent cardiovascular complications of general anesthesia.[18]

Conclusion

Patients with high risk of complications of general anaesthesia like ischemic heart diseases , chronic bronchitis , old age , geriatric patients benefit tremendously from local anaethesia in doing total laryngectomy

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