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**Gomez Poveda AJ**  
Department of Oral and  
Maxilofacial Surgery

**Martinez Diaz F**  
Department of Pathology.  
General Hospital "Reina  
Sofia" from Murcia (HGM)  
Spain.

**Aliaga Sanchez A**  
Department of Oral and  
Maxilofacial Surgery

## Closure in three layers as a modification of the surgical technique extracapsular lumpectomy in tumours of parotid gland

**Gomez Poveda AJ, Martinez Diaz F, Aliaga Sanchez A**

### Abstract

We present a modification of the extracapsular lumpectomy getting a closure in three layers from a study of benign parotid tumors during the years 2005 to 2014 of the Region of Murcia (Spain) that showed more conservative surgical techniques: extracapsular lumpectomy vs conservative superficial parotidectomy, with bibliographic support, with 10 figures and 1 table.

We conclude by studying surgical techniques (extracapsular lumpectomy with closure in three layers vs extracapsular lumpectomy) used in this region that the lumpectomy, with less sd de Frey and sinking.

**Keywords:** parotid gland, extracapsular lumpectomy with closure in three layers (EL3), extracapsular lumpectomy (EL), conservative superficial parotidectomy (CSP).

### 1. Introduction

The parotid region <sup>[1]</sup> is occupied by the parotid gland and facial nerve and is located on the top and side of the neck, on the ascending branch of the mandible. The facial nerve exits through the stylomastoid hole, which is located at a depth of 25 mm from the skin. He goes forward and out; runs between the posterior belly of digastric, outside and inside the stylohyoid, to penetrate the parotid gland where it divides into two major trunks: cervicofacial and temporofacial. These in turn are divided into five terminal branches that innervate the muscles of facial expression; These include: temporal branch, zygomatic, buccal, mandibular marginal and cervical.

It is the skin side of the cell. It is narrow, vertically positioned and according to the morphology of the convex or depressed subject, including the prominence of the ECM and mastoid behind, and the ascending branch of the mandible and masseter ahead.

The importance of this outer face is that when the deformable surface of the cell, all expansive process that takes place in it, will manifest itself sooner or later in their morphology. For this reason it is considered the clinical side of the cell. Furthermore, it is the surgical face.

Salivary gland tumors constitute about 5% of head and neck malignancies and between 64% and 80% of all correspond to parotid gland. Between 68-85% are benign.

Benign parotid tumor pathology is treated with surgery having two major trends in their technique: extracapsular lumpectomy and conservative superficial parotidectomy. Many studies have been done through history, the study of lesions of the parotid gland, from anatomical descriptions to surgical and anesthetic techniques; and it is Cadreanu in 1892, who made the first parotidectomy describing the preservation of the facial nerve. Since then, several changes have been designed for the purpose; performing surface or side, total parotidectomies including deep or medial lobe and finally partial parotidectomies, which were carried out in selected cases in benign lesions, small tail or neck portion of the gland.

We present a modification of the extracapsular lumpectomy getting a closure in three layers from a study of benign parotid tumors during the years 2005 to 2014 of the Region of Murcia (Spain) <sup>[2]</sup> that showed more conservative surgical techniques: extracapsular lumpectomy vs conservative superficial parotidectomy, with bibliographic support and 11 figures and 1 table.

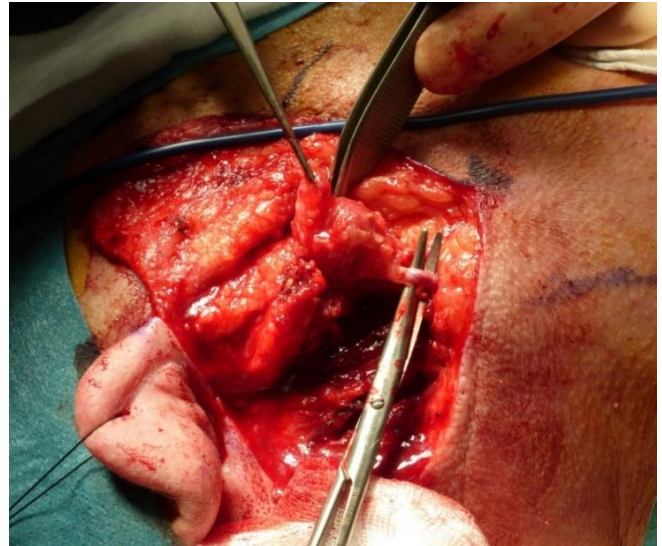
### Correspondence

**Antonio Javier Gomez Poveda**  
C/ Tercera avenida, 16, Urb  
Parque de las Palmeras, 30565.  
Las Torres de Cotillas (Murcia)  
Spain.

**Extracapsular lumpectomy**

EL (Fig 1-5) is a minimally invasive method that differs from classical enucleation, consisting of the incision and release of the contents of the capsule of the tumor. In the In EL, SMAS [3] overlying the tumor is cut without lifting, followed by blunt dissection at the level of the tumor. A plane may be around 2 to 3 mm surrounding the tumor and is the preferred dissection plane. Careful dissection continues along the tumor capsule to prevent rupture of small tumor outgrowths that's can be found. In this method, unlike other forms of parotidectomies, facial nerve identification is not performed, although the use defended monitor [4]. The facial nerve branches can be found deep or below the tumor and should be carefully dissected [5]. The previous radiological guide in TAC in deciding whether a technical or other relationship between the vein and retromandibular trunk of the facial nerve, to maintain a minimum margin of 2-3mm extracapsular.

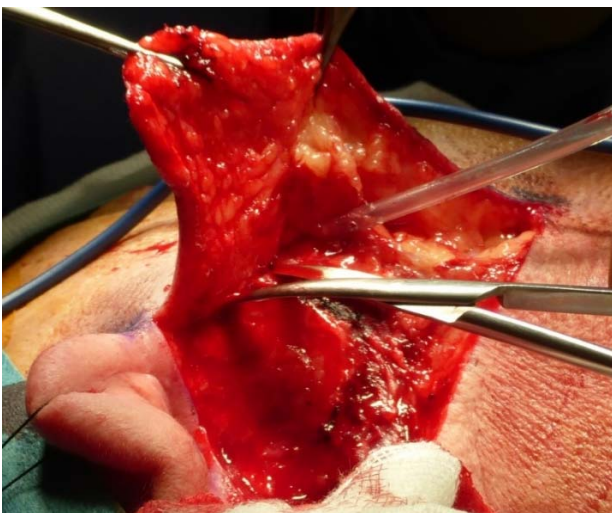
In general, the TE has been applied to small, benign and surface parotid tumors [6]. Most authors apply this method to smaller between 2.5 and 4 cm tumors. The risk of facial nerve injury during TE increases with increasing tumor size. One study [7] found a 4% risk of facial paresis after TE in tumors 4 cm or less in size compared to a 21% rate in paresis tumors greater than 4 cm. While most of the groups [8] only consider the TE for superficial lobe tumors [9], several have used for tumors in deep lobe parotid as Well [10].



**Fig 3:** ET with retromandibular vein.



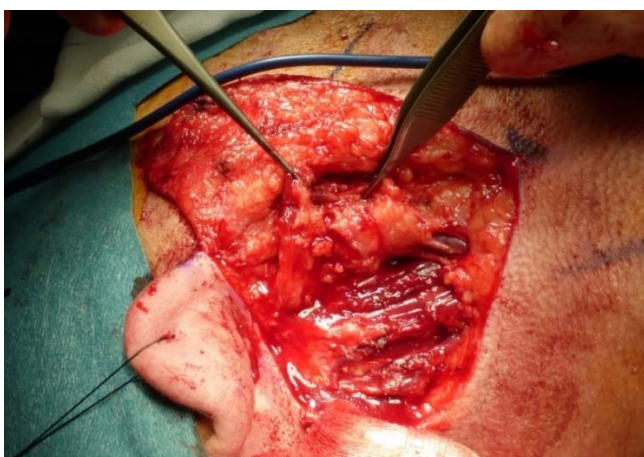
**Fig 4:** Closure of the parotid after the tumor removed.



**Fig 1:** Detachment of skin and lifting the flap to the right infraauricular level.



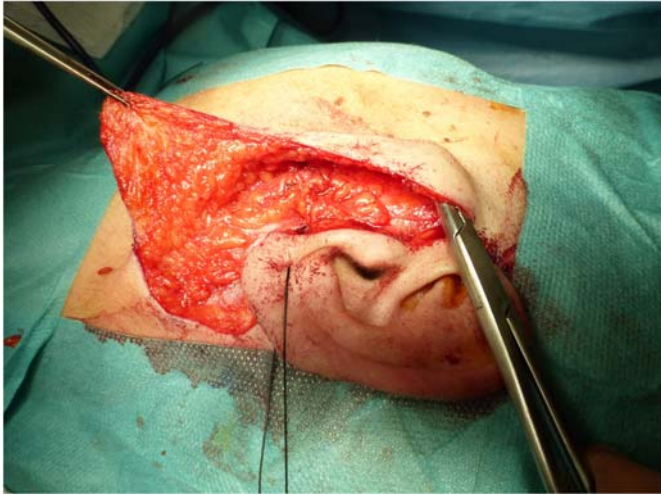
**Fig 5:** Closure plans.



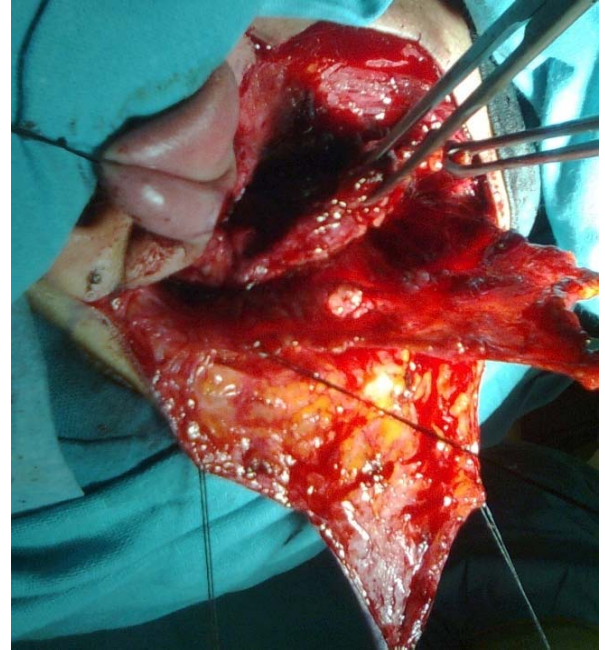
**Fig 2:** Incision "T" of the parotid by the MAS locating the tumor, off the ECM.

**Extracapsular lumpectomy modified with closure in three layers**

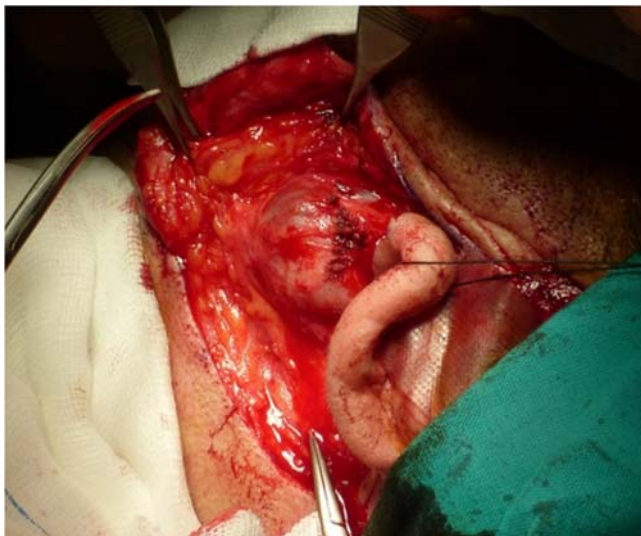
The dissection of the SMAS (Fig 6-10) preventing Frey syndrome (syndrome auriculotemporal nerve or gustatory sweating), is characterized by the appearance of erythema and sweating in the skin of the face, usually on the preauricular region in connection with chewing and swallowing.



**Fig 6:** Parotid tumor. Intraoperative image after skin and SMAS lifting.



**Fig 9:** We see the art we made in three layers: skin, SMAS and healthy parotid.



**Fig 7:** Right preauricular incision with cervical discharge. Lifting skin. See the SMAS in depth.3



**Fig 10:** Closure of the skin.



**Fig 8:** Deep lobe tumour once rejected without removing the superficial lobe.

## 2. Methodology

Information benign parotid tumors documentation services of hospitals in the region, using data from Tumor Registry Murcia AP services of Area II (161 cases) on a sample of 370,000 inhabitants and Area VII (93cases) on a sample of about 200,000, of a total population of 570,000 inhabitants, almost half of the Region of Murcia: 1,400,000. Extrapolating data from Area I (830,000 patients) with about 250 cases every 10 years to complete the study, from the tumor registry of the hospital, through the service file pathology and documentation service of the hospital, a total of 239 biopsies protocols final parotid benign epithelial tumors.

It has been used as statistical software program IBM. SPSS. Statistic s.v22.x64-EQUINOX.

Photographic material has been collected and intraoperative pathological anatomy.

To compare qualitative variables using the Chi-square test.

## 3. Results and Discussions

It should reach the EL sufficient experience in CSP and it always should be complete, without separating the lobes to

avoid the risk of accidental breakage of the tumor. Since the PA is a monoclonal tumor <sup>[11]</sup> CSP is not justified by the risk that there multicentricity, since the deep lobe is always left. Review likewise, that with the closure of three layers of EL is possible to avoid the collapse <sup>[12]</sup> of the skin.

The highest risk of relapse not only due to the pseudopodia, but the possible multicentricity in the deep lobe and accidental breakage.

**Table 1:** Recurrence depending on the type of intervention. Prevalence of surgical technique.

Área	Recurrence	Type of intervention				$\chi^2$ (g.l.)	p-valor
		CSP	EL	PT	PS		
II	No	127 (96,9)	10 (100,0)	13 (100,0)	5 (100,0)	0,877 (3)	0,831
	Sí	4 (3,1)					
VII	No	14 (100,0)	75 (98,7)	1 (100,0)	2 (100,0)	0,226 (3)	0,973
	Sí		1 (1,3)				
I	No	212 (96,4)					
	Sí	8 (3,6)					
Total	No	354 (96,7)	86 (98,9)	14 (100,0)	7 (100,0)	1,814	0,612
	Sí	12 (3,3)	1 (1,1)				

CSP: Conservative superficial parotidectomy. EL: Extracapsular lumpectomy. PT: Total parotidectomy. PS: Partial parotidectomy segmentaria.

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