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Research Article

Extra capsular Lumpectomy Vs Conservative Superficial Parotidectomy in the Treatment of Pleomorphic Adenoma of the Parotid Gland

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Abstract: We present a detailed study of benign parotid tumors during the years 2005 to 2014 of the Region of Murcia (Spain). The importance of this script lies in the need to show more conservative surgical techniques. We studied 474 cases benign epithelial tumors of the parotid gland, reviewing the surgical records of patients with bibliographic support. Our results show the low rate of recurrence with the surgery. We conclude by studying exhaustively, surgical techniques (Superficial parotidectomy and extra capsular lumpectomy) used in this region that the lumpectomy, with less surgical aggression, the same results are obtained.
Keywords: parotid gland, pleomorphic adenoma (PA), extra capsular lumpectomy (EL), conservative superficial parotidectomy (CSP), Pleomorphic adenoma (PA), tumour

INTRODUCTION:

The parotid region [1] it 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. 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. Clinically do not present facial paralysis. The PA presented ultrasound (fig1) as a solid, hypo echoic and homogeneous mass.

Fig-1. Ultrasound PA

Puncture aspiration with fine needle aspiration is usually used to first diagnostic with a sensitivity of 80% and a specificity of 97%. PA (Fig 2), appears between 20 and 40 years, is slow growing and has a 0.20 micron pseudo capsule that can be crossed by extensions of the tumor. Only 0.5% of pleomorphic adenomas are multicentric.

Benign parotid tumor pathology is treated with surgery having two major trends in their technique:

extra capsular 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, which 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.

Fig 2: PA parotid. Intraoperative image after lifting skin and SMAS

Extracapsular lumpectomy.

EL (Fig 3-5) 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 EL, SMAS (2) overlying the tumor is cut without lifting, followed by blunt dissection to 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 can be found. In this method, unlike other forms of parotidectomies, facial nerve identification is not performed, although the use defended monitor [3]. The facial nerve branches can be found deep or below the tumor and should be carefully dissected [4]. 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 [5]. 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 (6) 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 (7) only consider the TE for superficial lobe tumors [8], several have used for tumors in deep lobe parotid as Well [9].

Fig-3: Incision "T" of the parotid by the MAS locating the tumor, off the ECM.

Fig-4. ET with retromandibular vein.

Fig-5. EL macroscopic part of an PA with a parotid remains as a safety margin.

Conservative superficial parotidectomy.

Firstly, a large preauricular incision, skin flap dissection; secondly, release the rear edge, deepening reaching the tympanic bone and facial nerve identification; then dissection of the facial nerve (fig6) and parotidectomy and finally, sutured.

Fig 6. Intraparotid right facial nerve trunk reset once the superficial lobe of the right parotid gland

METHODOLOGY:

Information benign parotid tumors documentation services of hospitals in the region, using data from Tumor Registry Murcia AP services Hospital II (161 cases) on a sample of 370,000 and Hospital VII (93casos) 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 Hospital 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 protocols.

For the descriptive analysis of the sample have been used basic descriptive methods, so that, for qualitative variables, we have obtained the number of cases present in each category and the percentage; and for quantitative variables, the minimum, maximum, mean and standard deviation values. To compare qualitative variables using the Chi-square test and in cases where the test has been significant has been done the pairwise comparisons using the Bonferroni correction. The comparison of means between groups was performed using ANOVA test under the assumptions of normality checked with the Kolmogorov-Smirnov and homogeneity of variances checked with Levene's test. In cases in which significant differences have been made is the pairwise comparisons of Tukey for contrasting groups are responsible for the differences. Statistical analysis was performed using SPSS 22.0 for Windows. The differences are considered statistically significant those whose $p < .05$.

RESULTS AND DISCUSSIONS:

Recurrence is not dependent on the surgical technique, as seen in Table 1 and is due to other factors, mainly accidental breakage thereof, not related to surgical technique (for PA) that also worsens with EL , since most are the lower lobe and lower dissection, where there is more risk of breakage, it becomes equal in both the EL and the CSP.

Table-1: Recurrence depending on the type of intervention

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

CSP: Conservative superficial parotidectomy. EL: Extra capsular lumpectomy. PT: Total parotidectomy. PS: Partial parotidectomy segment aria.

Statistical analysis indicates that even if differences are not statistically significant, so the null hypothesis stating that the surgical technique of tumor recurrence were independent, although the tables as often as is observed in the PSC are confirmed. Therefore, no association between recurrence and the type of intervention and the total area is displayed.

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 (10) 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 of the CSP intraarticular. The retromandibular vein is a constant radiation guide to determine the position of the trunk of the facial nerve (11,12) Based on several authors (13) and service experience rx HGM, radiological distance between the vein and accurate the tumor, so that this indicated the CSP, based on this last technique allows better access.

CONCLUSION:

CSP does not eliminate the risk of recurrence (2.4%) versus EL (1%), mainly at the expense of deep lobe, but the difference is not statistically significant and it gives us idea that the most important cause is accidental breakage of the tumor. The highest risk of relapse not only due to the pseudopodia, but the possible multicentricity in the deep lobe and accidental breakage.

EL should be the standard surgical technique of removing PA parotid because it is faster and with fewer complications, in all cases of PA, except very close to the trunk of facial nerve. The PC is more aggressive and TE, however, has a shorter recovery time for the tissue less sweeping and less sinking with less aesthetic problems and consecuently less mental illness and paralysis.

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