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Extracapsular dissection of the parapharyngeal space for a pleomorphic adenoma: a 10-year review

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Abstract

Pleomorphic adenomas of the parapharyngeal space are difficult to remove with a margin of normal tissue. We reviewed 29 cases of extracapsular dissection of a parapharyngeal pleomorphic adenoma and found that extracapsular dissection does not increase the probability of recurrence of the tumour.

Keywords: Extracapsular dissection; Parapharyngeal space; Pleomorphic adenoma

Introduction

The parapharyngeal space is a deep anatomical space in the shape of an inverted pyramid, with the greater cornu of the hyoid bone at its apex. The floor is the base of the skull.[1] About 80% of tumours of the parapharyngeal space are benign. Tumours of the salivary gland are the most common neoplasms, and pleomorphic adenoma the most usual histological type.[2]

About 80% of salivary gland neoplasms are found in the parotid gland, with pleomorphic adenoma being the most common subtype.[3] Before the 1930s intracapsular enucleation of the tumour from the gland was the standard treatment for a pleomorphic adenoma because of its usually benign clinical course, and because the surgeon did not want to damage the facial nerve.[3] Superficial parotidectomy became the standard operation after the seminal work of Patey and Thackray, in which they showed that the capsule that encased the pleomorphic adenoma was partly incomplete.[4] This histological finding was immediately accepted as the rational explanation of the relatively high incidence of recurrent tumours that had been noticed during previous decades.[4,5]

About 80% of parotid tumours lie on the facial nerve, and as the facial nerve must be preserved if at all possible, the tumour must be dissected along its capsule with, in some cases, no margin of normal tissue.[4,6] If the tumour originates from the deep lobe of parotid gland, the situation becomes more complicated. As the tumour grows, the facial nerve is stretched like a bowstring over its surface. However, such cases are not associated with a high incidence of recurrence.[4,5] George and McGurk, and Gleave et al. thought that the high incidence of recurrence in the 1930s and 50s resulted not from the biological properties of the pleomorphic adenoma, but rather from the surgical technique used.[4,7] Some authors reported their experiences of extracapsular dissection for pleomorphic adenomas of the parotid as being similarly effective but with fewer side effects than superficial parotidectomy.[3,4,8,9]

Because the connective tissue around the parapharyngeal space is loose, the tumour may easily enlarge, being adjacent to the carotid artery, the jugular vein, and the cranial

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Table 1
Details of patients.

Case no.	Sex	Age (years)	Primary/recurrence	Preoperative image	Diameter of tumour (cm)	Origin of tumour	Operative approach	Bleeding (ml)	Operating time (min)	Duration of follow-up (years)	Complications
1	F	45	Recurrence	CT	4	DL	MN	600	225	1.00	
2	F	69	Primary	CT	5	DL	MN	300	105	1.00	
3	F	34	Recurrence	CT	4	DL	MN	150	150	1.00	ILN
4	F	42	Primary	CT	6	DL	MN	80	105	1.00	
5	M	45	Recurrence	CT	3	DL	MN	400	195	1.00	ILN
6	M	36	Primary	CT	4	DL	MN	400	140	1.50	
7	F	26	Recurrence	CT	4	DL	MN	1000	225	2.00	
8	F	20	Primary	CT	3	MS	TO	10	20	2.00	
9	M	23	Primary	CT	2	DL	TC	20	60	2.00	
10	F	63	Recurrence	CT	4	DL	TC	100	180	3.00	Frey syndrome
11	F	55	Primary	CT	3	MS	MN	120	90	3.00	
12	F	37	Recurrence	CT	2	DL	MN	750	240	3.00	Numbness of tongue
13	F	33	Primary	CT	5	DL	MN	150	90	3.00	
14	F	64	Primary	CT	4	DL	MN	100	150	4.00	
15	M	25	Primary	CT	5	DL	MN	200	190	4.00	TFP
16	M	40	Primary	CT	6	DL	MN	280	175	4.00	
17	M	27	Primary	CT/DSA	4	MS	MN	50	140	3.00	
18	M	42	Primary	CT	5	DL	TP	80	150	4.00	TFP
19	F	50	Primary	CT	6	DL	MN	200	100	4.00	
20	M	24	Primary	CT	5	MS	MN	200	90	4.00	Numbness of tongue
21	M	23	Primary	CT	6	DL	MN	200	210	5.00	
22	F	55	Primary	CT	5	DL	MN	280	150	6.00	ILN
23	M	23	Primary	CT	7	DL	TP	1300	230	5.00	TFP
24	F	37	Primary	MRI	9	DL	MN	180	135	1.50	Wound infection
25	F	39	Primary	CT	4	DL	MN	400	195	8.00	
26	M	31	Primary	CT	6	DL	MN	150	180	8.00	
27	F	48	Primary	CT/MRI	4	DL	TP	50	135	9.00	TFP
28	M	28	Recurrence	CT/PSG	6	DL	MN	250	240	7.00	Numbness of tongue
29	M	38	Primary	MRI	4	DL	MN	600	225	5.00	
Mean (SD)					4.66(0.278)			279 (59.2)	151 (11.0)	3.66(0.421)	

MN, mandibulotomy; TP, transparotid; TC, transcervical; TO, transoral; DL, deep lobe of parotid gland; MS, minor salivary; TFP, temporal facial paralysis; ILN, numbness of inferior lip.