

# IMPACT OF USING SCALPEL VERSUS ELECTROCAUTARY AND DRAIN VERSUS NO DRAIN IN PAROTID SURGERY

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## Introduction

Parotid gland is a major salivary gland in the human body. It secretes saliva in the oral cavity to facilitate chewing and digestion. Parotidectomy is the partial or complete removal of the parotid gland. It is indicated for treatment of parotid inflammatory or neoplastic causes. The most common benign neoplastic causes are pleomorphic adenoma and Warthin’s tumor. Diagnosis for parotid lesions is made using ultrasonography, computed topography and MRI. Facial nerve paresis, great auricular nerve affection, seroma formation, haematoma formation, surgical site infection, skin flap necrosis and Frey’s syndrome are possible complications after parotidectomy. In parotidectomy scalpel and electrocautary can be used in raising the skin flap. Parotidectomy has traditionally been completed with a drain insertion and overnight hospital stay, but now with the fine dissection and decrease the rate of complications of parotid surgery, the drainless parotidectomy is considered a safe procedure.

## Aim of the work

The aim of the study was to compare between scalpel versus electrocautary in raising skin flap in parotid surgery as regards flap integrity, haematoma and seroma formation and to assess the impact of post-operative “no drainage” versus “drainage” in parotid surgery as regards analgesic requirements, seroma and haematoma formation.

## Subjects and methods

After approval of the local ethics committee, all the patients included in this study were informed about the procedure and signed an informed written consent before carrying. The present prospective study included 40 patients with parotid swellings indicated for parotidectomy performed at the Head and Neck and Endocrine Surgical Unit of Alexandria Main University Hospital. Those patients were divided into four groups A, B, C and D, each group composed of 10 patients with two variables. In group A we used a scalpel and a drain, In group B we used a scalpel without a drain, In group C we used electrocautary with a drain and in group D we used electrocautary without a drain.

Preoperative assessment: thorough history taking, routine laboratory investigations and CT neck with IV contrast.

## Results

The intraoperative blood loss in groups A and B in which we used scalpel in raising the skin flap was (222.50 ± 29.93) ml and (212.50 ± 35.84) ml respectively compared to (102.50 ± 18.45) ml and (100.0 ±16.67) ml in groups B and D in which we used electrocautary respectively ( p<0.001).

Table (1): Comparison between the four studied groups according to intra-operative blood loss.

Blood loss (ml.)	Group A (n=10)		Group B (n=10)		Group C (n=10)		Group D (n=10)		p
	No.	%	No.	%	No.	%	No.	%	
Min. – Max.	175.0 – 275.0		150.0 – 250.0		75.0 – 125.0		75.0 – 125.0		<0.001*
Mean ± SD.	222.50 ± 29.93		212.50 ± 35.84		102.50 ± 18.45		100.0 ±16.67		
Median (IQR)	225.0(200–250)		225.0(175–250)		100.0(100–125)		100.0(100–100)		
Sig. bet. Grps	p <sub>1</sub> =0.816,p <sub>2</sub> <0.001*, p <sub>3</sub> <0.001*,p <sub>4</sub> <0.001*,p <sub>5</sub> <0.001*,p <sub>6</sub> =0.877								

According to assessment of hematoma and seroma formation on day 10 post-operative by ultrasonography showed in table (2), In groups (A+C), with drain insertion, 6 patients showed with seroma out of 20 cases (40%) with mean seroma size of (1.72 ± 0.51) ml compared to 9 cases out of 20 cases (60%) with mean seroma size of (2.21 ± 0.65) ml in the drainless groups (B+D) with no statically significant difference.

In groups (A+B), with scalple used to elevate the skin flap, ultrasonography showed 7 patients with seroma out of 20 cases (35%) with mean seroma size of (1.80 ± 0.75) ml compared to 8 cases out of 20 cases (40%) with mean seroma size of (2.20 ± 0.48) ml in groups (B+D) in which electrocautary

Table (2):Comparison between the four studied groups according to ultrasonography on day 10 post-operatively

Ultrasonography on day 10 post- operatively	Group A (n=10)		Group B (n=10)		Group C (n=10)		Group D (n=10)		Test of sig.	p
	No.	%	No.	%	No.	%	No.	%		
Seroma										
No	7	70.0	6	60.0	7	70.0	5	50.0	c <sup>2</sup> = 1.250	MCp= 0.891
Yes	3	30.0	4	40.0	3	30.0	5	50.0		
Seroma size (cm3)	(n=3)		(n=4)		(n=3)		(n=5)			
Min. – Max.	1.0 – 1.70		1.40 – 3.0		1.80 – 2.40		1.50 – 3.0		H= 4.840	0.184
Mean ± SD.	1.33 ± 0.35		2.15 ± 0.82		2.10 ± 0.30		2.26 ± 0.59			
Median (IQR)	1.30 (1.15– 1.50)		2.10 (1.45– 2.85)		2.10 (1.95– 2.25)		2.30 (1.90–2.60)			
Hematoma										
No	10	100.0	10	100.0	10	100.0	10	100.0	–	–
Yes	0	0.0	0	0.0	0	0.0	0	0.0		

## Conclusion

Drain insertion in parotid surgery doesn’t affect seroma or haematoma formation post-operatively. Drainless parotidectomy patients’ experienced less post-operative pain and less post-operative hospital stay.

The usage of a scalpel in raising the skin flap in parotid surgery resulted in more intraoperative blood loss than utilizing electrocautary in raising the skin flap. However, both techniques did not affect, flap integrity, post-operative seroma or hematoma formation .



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