Esthetic concerns in the planning of parotidectomy incisions

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Background
Surgeons have utilized the traditional Blair's incision (or a variation of it) to conduct parotidectomy. A variety of esthetic deformities, including hollowed-out preauricular and infra-auricular abnormalities and visible scars, can arise. The Appiani and Delfino standard facelift incision was then changed to facilitate exposure of parotid gland lesions, which ranged in size from minor to moderate.
Patients and methods
A total of 50 consecutive patients who were scheduled for parotidectomy due to benign disease were included in this research. Included were patients with benign parotid illness recommended for either a superficial or complete conservative parotidectomy. Using the closed envelope procedure, all eligible patients were randomly divided into two groups: group A and group B (25 each). For a total of 3 months, the patients were monitored weekly for the first 4 weeks and then every 2 weeks to identify any early and late postoperative problems.
Results
In group A, the mean age was 42.6±8.65 years, while in group B, it was 44±10.1 years (P=0.126). In group A, the mean operating time was 140±18.8, but in group B, it was 164±26.9 (P=0.089). There was no discernible statistical difference between the two groups in terms of postoperative discomfort, operational hematoma, hospital stay, facial nerve palsy, or hypertrophic scars. Patients in group B were substantially happier with their esthetic results than those in group A (P=0.05).
Conclusion
It is safe to do the parotidectomy using the modified facelift incision and it allows good exposure of the parotid gland comparable to the conventional Blair's incision. It provides a significantly better cosmetic outcome.

Keywords:
Blair, 's incision, facelift incision, parotidectomy

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Introduction

Salivary gland neoplasms account for 5–7% of all head and neck tumors among surgically important parotid disorders [1]. The majority of parotid neoplasms, or 60% of all parotid tumors, are pleomorphic adenomas [2].

Surgeons have utilized the traditional Blair's incision (or a variation of it) to conduct parotidectomy. A variety of esthetic deformities, including hollowed-out preauricular and infra-auricular abnormalities and visible scars, can arise. The primary drawback of this procedure is made up of these and Frey's syndrome [3–6]. In addition, some patients may have serious concerns about numbness in the ear lobule brought on by scarring of the great auricular nerve [7].

One of the most widely used incisions for many years, Blair's incision was initially used in 1912 and was modified by Bailey in 1941. It is now referred to as modified Blair's incision [8].

Terris *et al*. [9] and colleagues modified Appiani and Delfino's standard facelift incision by extending it posteriorly in the postauricular crease to cross the occipital hairline and descend adjacent to or within the hairline for a distance of 6 cm, allowing exposure of small-to-moderate-sized parotid gland lesions.

The aim: the study's objective was to compare the modified facelift incision used in benign parotidectomy with the traditional Blair's incision in 50 patients (divided into two groups of 25 patients each), who had benign parotid disease and were admitted to the Head and Neck Unit at Alexandria Main University Hospital.

Patients and methods

This study included 50 consecutive patients indicated for parotidectomy for benign disease, admitted to the

Head and Neck Unit at Alexandria Main University Hospital. After exclusion of recurrent cases and those with evidence of malignancy, patients with benign parotid disease indicated for either superficial or total conservative parotidectomy were included. Using the closed envelope procedure, all eligible patients were randomly divided into two groups: group A and group B (25 each). Patients in group A underwent surgery using the standard Blair's incision [10], whereas patients in group B underwent surgery utilizing the facelift incision [11].

The modified facelift incision was created at the preauricular spot a little further cranially than the Blair incision to provide the cutaneous flap greater movement. The ear lobe's natural preauricular fold served as the starting point for the incision, which continued distally to the retro-auricular fold. The retro-auricular incision was prolonged posteriorly until it reached the level of the tragus, at which point it curved in an occipital direction. As usual, the flap was raised, and the gland was removed (Figs 1–5).

Patients underwent overnight hospital observation in order to rule out any potentially fatal airway issues. The drain was taken out and a new dressing was applied when the wound was examined the next morning. The dressing was to be removed by the patient 24 h later.

Patients were instructed to watch for redness, hotness, hypoesthesia, and sweating, especially during mastication.

Figure 1

Modified facelift incision.

Patients were followed up weekly for 4 weeks and every 2 weeks thereafter for a total of 3 months for detection of early and late postoperative complications (Figs 6–9). All patients completed the study till the end of follow-up.

Ethical approval

Research ethics approval was provided by the Ethics Committee of the Faculty of Medicine, University of Alexandria (MS_Rafeek Hassan). All patients included in the study were informed well about it and an informed written consents were obtained.

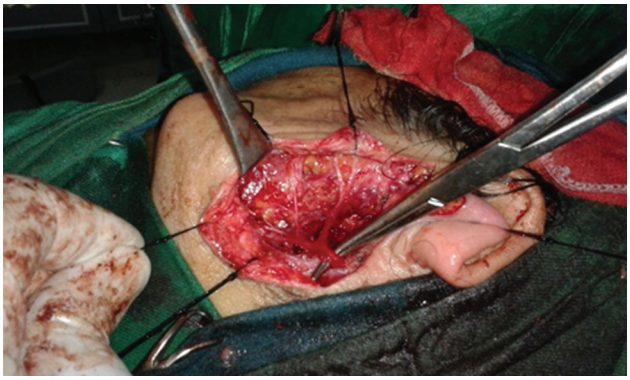
Results

The current study comprised a total of 50 consecutive individuals who had parotidectomy indications for benign illness. Patients were randomly assigned to

Figure 2

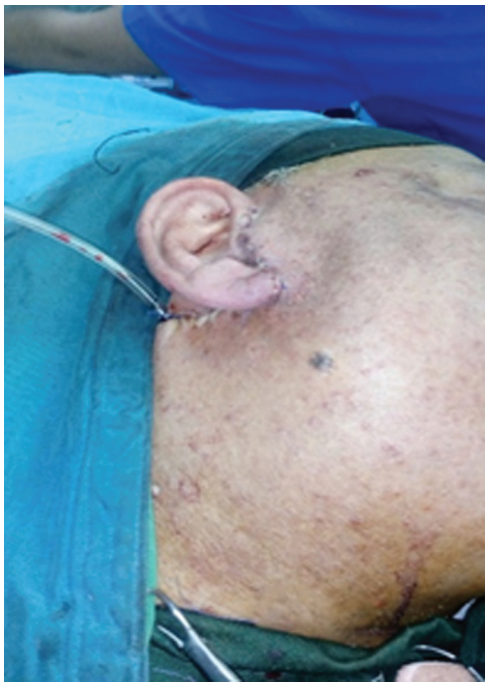
Marking of facelift incision.

Figure 3



Facial nerve branches.

Figure 4



After closure with Hemovac in place.

Figure 5

After removal of excess skin before closure.

one of two groups: group A underwent surgery using the standard Blair's incision, whereas group B underwent surgery utilizing the facelift incision.

Age varied from 26 to 68 years in group A, with a mean value of 42.6±8.65 years, and from 28 to 66 years in group B, with a mean value of 44±10.1 years (P=0.126). In group A, there were 15 (60%) men and 10 (40%) females, while in group B, there were 13 (52%) males and 12 (48%) females (P=0.266). Regarding the demographic information of the two study groups, there was no statistically significant difference (P>0.05).

Figure 6

Surgical site 1 week postoperatively (modified facelift incision) of a 60-year old male patient after superficial parotidectomy.

Figure 7

Surgical site 1 month postoperatively (modified facelift incision) of a 57-year-old female patient after total conservative parotidectomy.

Operative time varied between 120 and 165 in group A, with a mean value of 140.18, and between 140 and 180 in group B, with a mean value of 164.26 (P=0.089). There was no discernible statistical difference between

the two groups' levels of postoperative discomfort (Table 1).

In comparison to four (16%) patients in group B, three (12%) patients in group A experienced postoperative hematoma (P=0.688). Regarding the local postoperative consequences, Table 2 demonstrates that both groups experienced the same incidence of facial nerve palsy and hypertrophic scars, one (4%), (P>0.05). In group A, the average hospital stay was 2–7 days (mean±SD=3.65–1.09), while in group B, the average hospital stay was 2–6 days (mean ±SD=3.52–1.108; P=0.411).

Regarding cosmetic outcome and patient satisfaction, patients in group B were significantly satisfied more than group A (Fig. 10) (P<0.05).

Figure 8

Surgical site 3 months postoperative (modified facelift) of a 57-year-old female patient after total conservative parotidectomy.

Figure 9

Surgical site 3 months postoperatively (Blair incision) of a 63-year-old female patient after total conservative parotidectomy.

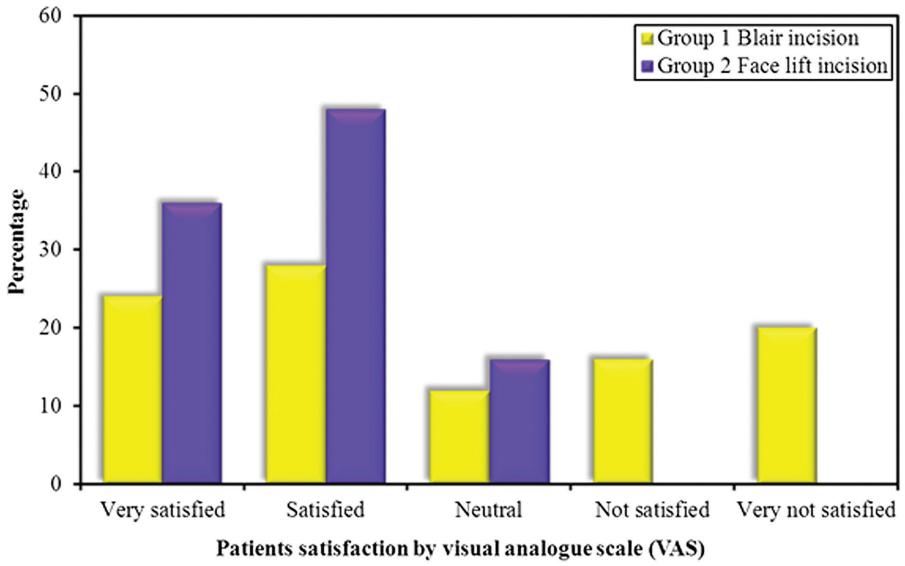
Table 1 Pain assessment in the two studied groups through the period of follow-up (2 days)

Level of pain	Group A Blair's incision (N=25) [n (%)]	Group B Facelift incision (N=25) [n (%)]	Test of significance (P)
Postoperative			
No pain (0–2)	0	0	
Mild (3–5)	10 (40.0)	7 (28.0)	0.236
Moderate (6–8)	12 (48.0)	14 (56.0)	
Severe (9–10)	3 (12.0)	4 (16.0)	

Table 2 Comparison between the two studied groups regarding local postoperative complications

Postoperative complications	Group A Blair incision (N=25) [n (%)]	Group B facelift incision (N=25) [n (%)]	Test of significance (P)
Seroma	0	0	–
Sialocele	0	0	–
Wound dehiscence	0	0	–
Skin necrosis	0	0	–
Facial nerve palsy	1 (4.0)	1 (4.0)	–
Frey's syndrome	0	0	–
Hypertrophic scar	1 (4.0)	1 (4.0)	–

Figure 10



Comparison between the two groups according to cosmetic outcome and patient satisfaction.

Discussion

The aim of this work was to compare modified facelift incision in parotidectomy for benign disease versus conventional Blair's incision in 50 patients (divided into two groups of 25 patients each) with benign parotid disease indicated for either superficial or total conservative parotidectomy, admitted to the Head and Neck Unit at Alexandria Main University Hospital.

Previous research have officially assessed the surgical time. A modified facelift incision was reported to take between 150 and 200 min on average, and some research indicated that this duration was less than Blair's incision [11–15]. According to Lin *et al.* [13], and To *et al.* [14], the length of the operation was extended by 5.4 and 4.8 min, respectively. In our investigation, the Modified Face-lift Incision (MFI) procedure took 24 min longer than the Blair's incision did (P=0.089), demonstrating how difficult the new approach was, particularly in the early stages. As the trial came to a close, this time reduced, demonstrating the surgeon's growing experience.

Studies have shown that employing the MFI as opposed to a traditional incision results in a scar that patients are more satisfied with. However, Wasson *et al.* [16] found that 20 patients who had Blair's incisions compared with MFIs had greater scar satisfaction scores, while the difference was not statistically significant [11]. Both Lee *et al.* [17] and Bianchi *et al.* [18] used a visual analog scale (VAS) to compare cosmetic outcomes, and both claimed that MFI produced better results, which is consistent with our findings. When compared with Blair's incision, MFI showed a statistically significant difference, according to Bianchi *et al.* [18] (other than the surgeon or the patient).

Bulut *et al.* [15] in a similar study, using the VAS as a comparative parameter is in agreement with our results regarding patient satisfaction and facial nerve exposure.

In an attempt to reach a satisfactory cosmetic outcome, compared with the traditional Bayonet-Shaped Incision (BSI), several investigations indicated a smaller incision [19,20]. However, other studies have described using SMAS, the superior portion of the sternocleidomastoid muscle, or a combination of the two as reconstructive methods for the resection problem [11,13,21–23]. Even though neither our MFI group nor the control BSI group underwent any of those reconstructive procedures, both groups' VAS scores for esthetic results were equivalent. Therefore, it might be said that depending on how much of a gland is removed, partial parotidectomy may or may not need filling the deficiency.

The potential increased risk to the facial nerve with the MFI is one of the main worries for patients. Even the VAS score for facial nerve function following surgery failed to demonstrate a difference between the two groups in this study. There was no statistically

significant difference between the two groups for this risk.

In comparison to Blair's incision, Wasson *et al.* [16], Bianchi *et al.* [18], and To *et al.* [14] reported that MFI reduced facial nerve palsy. Other investigations [9,12] claimed that neither group had any facial nerve injury. However, a research that compared facial nerve palsy following MFI to that after Blair's incision found no statistically significant difference between the two groups [13].

The results of the current investigation demonstrated that it is equally possible to find and retain the facial nerve using landmarks. Anatomical investigations have demonstrated that Blair's incision and MFI's exposure are equivalent [24].

Lohuis *et al*. [12] who studied 30 patients with benign parotid neoplasm where the MFI was utilized for superficial parotidectomy stated that this incision ought to only be used for small-to-medium-sized benign mobile tumors of the parotid gland's superficial lobe.The MFI is feasible for the majority of benign parotid lesions regardless of tumor location, according to Lee *et al*.'s [17] retrospective study on 357 patients who had various benign parotid diseases and underwent parotidectomy in 2011. However, for large deep-lobe tumors, the modified Blair's incision is still regarded as useful.

Amin *et al*. [25] showed an agreement with all advocates of facelift approach because it allows sufficient exposure for resection of benign parotid tumors.

In our study, total conservative parotidectomies were performed successfully through MFI in agreement with the aforementioned studies.

In the current study, the complication rate was almost similar between the two studied groups, a finding that is going with what was reported within the literature and was literally confirmed in the study by Terris and colleagues [9,13,14,16–18].

For accessing the majority of benign parotid tumors, the facelift incision has now supplanted the modified Blair incision [9,21,26–28].

Conclusions

It is safe to do the parotidectomy using the modified facelift incision:

(1) It allows good exposure of the parotid gland comparable to the conventional Blair's incision.
(2) It provides a significantly better cosmetic outcome.
(3) There is no significant statistical difference in postoperative complications rates between the two incisions.

Recommendations

It is advised that head and neck surgeons master the facelift incision for parotidectomy as it offers an option for patients who are worried about the cosmetic effects of the surgery.

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Conflicts of interest

There are no conflicts of interest

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