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Otolaryngology -- Head and Neck Surgery 2012 146: 247 originally published online 22 August 2011
DOI: 10.1177/0194599811419467

The online version of this article can be found at:
http://oto.sagepub.com/content/146/2/247

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>> Version of Record - Jan 31, 2012
OnlineFirst Version of Record - Aug 22, 2011

What is This?
Parotidectomy by Periauricular Incision

Andy Petroianu, MD, PhD

No sponsorships or competing interests have been disclosed for this article.

Abstract

Objective. According to the literature, periauricular combined with submandibular or cervical incision is used in nearly every parotidectomy. The aim of this study was to present the results of the use of only periauricular incision in parotid surgical procedures.

Design. A case series with planned data collection.

Setting. Patients of the author were operated on at the Hospital Santa Casa de Misericórdia de Belo Horizonte, Brazil.

Subjects and Methods. Forty-one consecutive partial or total parotidectomies (27 cases of pleomorphic adenoma, 9 of other benign tumors, 3 of parotid cysts, and 2 of chronic parotiditis) were performed using only periauricular incision.

Results. The parotid tumors were removed in all cases with no need for any further skin procedures, as the incisions produced a good aesthetic result. All patients presented temporary hypoesthesia in the area that had been operated on for no more than 6 months. Ear discomfort was reported by 18 patients for a short period of time. Local infection occurred in 1 case successfully treated with systemic antibiotics.

Conclusion. The results of the present study indicate that periauricular incision is a high-quality and highly aesthetic option for surgical procedures concerning benign conditions of the parotid gland.

Keywords
parotid benign tumor, parotidectomy, parotid surgery, periauricular incision, postoperative follow-up, aesthetic results, complications

Received May 10, 2011; revised July 18, 2011; accepted July 18, 2011.

Parotidectomy is a common surgical procedure performed on benign or malignant tumors and on select benign inflammatory and autoimmune conditions of the parotid.1,2 Parotid tumors are mostly benign, but their evaluation and treatment require a thorough knowledge of the relevant anatomy and pathology.1,3-5 The purpose of surgical treatment of benign tumors is the complete removal of the mass while preserving the facial nerve.2,4,6,7

The most commonly used incision for parotidectomies is the Blair or modified Blair incision, which consists of a preauricular approach together with submandibular or cervical extension.1,2,4,6-8 However, apparent neck scars and soft-tissue contour deformities are frequently the result of this type of incision.1,2,7

The aim of this study was to evaluate the results of treatment of parotid benign conditions through a more aesthetic periauricular incision that leaves no submandibular or cervical scar.

Patients and Methods

Before starting this study, we obtained approval from the Ethical Committee of the Hospital Santa Casa de Misericórdia de Belo Horizonte, Brazil (process nr. 161-05). All patients signed informed consent before being submitted to the operation, including the surgical incision.

All 41 consecutive patients were surgically treated for benign parotid diseases and prospectively studied in an attempt to verify the results from periauricular incisions when performing parotidectomies. This was the only incision used in all cases. Indications for parotidectomy included pleomorphic adenoma (27 cases), other benign tumors (9 cases), parotid cyst (3 cases), and chronic parotiditis disease (2 cases). Sixteen diseases were on the right side and 25 on the left side.

The patients included 20 men and 21 women with a mean age of 46 years, ranging from 15 to 71 years old. According to their skin color, 17 were white, 20 were brown, and 4 were black. This proportion is similar to the distribution of the skin color within the general Brazilian population.

The periauricular incision began in the preauricular crease, continued vertically down into the tragal margin, around the earlobe retroauricularly, and continued in the

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retroauricular space until it reached the mastoid process (Figure 1A). The skin flap was raised to the superior, anterior, and inferior borders of the gland (Figure 1B). Two techniques were used to raise the skin flap: in cases of carcinoma, the flap was raised over the periparotid fascia, whereas in all benign conditions, the flap was raised under the periparotid fascia, so as to reduce the incidence of Frey syndrome.

After performing the parotidectomy (Figure 1C) and careful hemostasia, the skin wound was closed in 1 or 2 layers. In all patients, the subcutaneous tissue and fascia were sutured. In most cases, the edges of the skin were adequately connected using only this suture with no additional maneuvers (Figure 1D). However, when the skin was not perfectly joined, an intradermal running suture was implemented using 4-0 nylon stitches.

A continuous suction drain was used after the total parotidectomy had been performed, as well as in cases with larger tumors. On the second or third day of postoperative follow-up, the drain was removed and the patients were discharged from the hospital. The intradermal stitches were removed on around the 15th day of postoperative follow-up. All patients underwent follow-up treatment over a period ranging from 6 months to 4 years, in an attempt to establish the aesthetic results of the incision and the complications stemming from this procedure.

**Results**

The parotid tumors were removed in all cases with no need for further skin incision. The patients presented good overall postoperative follow-up. The incisions showed highly satisfactory aesthetic results, and only imperceptible scars could be seen after 6 months. All margins of the removed benign tumors were free of disease.

All patients complained of hypoesthesia of area that had been operated on for no more than 6 months. A temporary loss of feeling in the earlobe with no other visible repercussion occurred in 18 patients during the first 2 months of postoperative follow-up, most likely due to the periauricular incision and the manipulation of the greater auricular nerve. Twenty-two patients reported a partial limitation in opening their mouths, which may well have been caused by a local

**Figure 1.** Partial parotidectomy by means of a periauricular incision. (A) Periauricular incision. (B) Dissection of a pleomorphic adenoma in the lower portion of a parotid gland. Observe that the skin flap is raised to the superior, anterior, and inferior borders of the gland. (C) Final view of the surgical field after the removal of the tumor. (D) Synthesis of the surgical wound without a skin suture. The edges of the wound were joined only by subcutaneous stitches. A continuous suction drain was inserted below the incision.
inflammation extending to the temporomandibular joint. This symptom disappeared completely within the first month. One case of local infection was also recorded and successfully treated with antibiotics. All discomforts disappeared over time, and the patients reported being satisfied with the result of the operation. No other complication was observed.

Discussion

The surgical approach used for parotid tumors has undergone considerable evolution. A parotidectomy is frequently performed for benign tumors of the parotid gland. The pleomorphic adenoma is the most common benign tumor found in this gland.\textsuperscript{1,3-8} It is important to point out the predominance of diseases in the left parotid. The literature mentions no factor related to this difference that is in need of further study.

Periauricular incision is an established plastic surgery procedure commonly used in facelift procedures.\textsuperscript{11-15} According to this prospective study, the periauricular incision provides adequate exposure, even for a total parotidectomy, and it results in improved patient satisfaction with no additional risk of complications. Parotidectomy via facelift incision has been published since Terris et al in 2004.\textsuperscript{11} However, all the operations described previously combine the periauricular incision with a retroauricular L-incision.\textsuperscript{11,14-16} To perform this complementary incision, it is usually necessary to cut the local hair, and a little scar persists in the back of the ear. In fact, this complementary incision is necessary to perform a facelift; however, we did not find any advantage for parotidectomy. Periauricular incision exclusively is enough for parotidectomy and is not followed by the inconveniences of the complementary incisions.

On the other hand, it should be emphasized that smaller incisions carry more risk for the facial nerve function if the surgeon does not have enough experience with parotid operations. Some big tumors of the deep parotid lobe and adjacent to the skull base require larger incision for an adequate identification of the facial nerve. However, in the patients of this study, such difficulty did not occur.

Most patients with postoperative complications require nothing more than an explanation about the pathophysiology and the reassurance that these are not unusual side effects of parotidectomy.\textsuperscript{1,2,4,6-8} According to the literature, the complications found in the present series are common after parotidectomy and are self-limited with the complete reestablishment of facial functions and good aesthetic results within only a few months.\textsuperscript{2,4,6-8,11,13,15,16}

All of these adverse effects that appear after performing a parotidectomy using Blair or modified Blair incisions have been described in the literature as usual.\textsuperscript{2,7} In fact, most are due to the parotidectomy itself and not to the type of incision. The aesthetic management of the periauricular incisions and the resulting wound proved to be quite satisfactory. However, a pivotal consideration related to this incision is its limitation to the more experienced parotid surgeons, familiarized with the Blair incision and knowing the limits of each surgical approach. A more cosmetically appealing incision should not interfere with a safe operative procedure.

Conclusion

The results of the present study indicate that periauricular incisions alone represent good options for surgical approaches to treat benign diseases of the parotid gland. The novelty of this presentation is avoiding complementary incisions.

Author Contributions

Andy Petroianu, corresponding author, researcher, writer.

Disclosures

Competing interests: None.

Sponsorships: None.

Funding source: None.

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