

# Intra-Parotid Dermoid Cyst: Excision Through a Face Lift Incision

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## ABSTRACT

Intra-parotid dermoid cysts are extremely rare. Clinically, they present like any other parotid lump and pre-operative diagnosis is rarely possible. A 62 years old Caucasian man presented with a painless lump in his right parotid region. The Magnetic Resonance Imaging (MRI) scan revealed a 3 x 3 cm mass in the parotid tail. Cytological examination was unhelpful. The patient underwent successful excision of the cyst through a small face lift incision. No drain was inserted and the patient was discharged home the same day. The patient made an uneventful recovery and was highly satisfied with the aesthetic outcome. The definite histopathological diagnosis was an intra-parotid dermoid cyst.

**Key Words:** *Parotid. Dermoid cyst. Face lift incision. Partial parotidectomy.*

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## INTRODUCTION

Intra-parotid dermoid cyst is an extremely rare benign lesion. In the head and neck region, it accounts for 7% of all dermoid cysts, which is the third most frequent site.<sup>1</sup> It is predominantly found in the orbit, oral cavity and nasal and paranasal regions (80%).<sup>2</sup> These cysts often remain asymptomatic for a long-time and come to clinical attention as a result of enlargement in size or compressive effect into the orbit. Spontaneous rupture can lead to local inflammatory response.<sup>3</sup>

Typical presentation is a cystic mass in the parotid region. Dermoid cysts are rarely suspected or diagnosed on clinical grounds. Fine Needle Aspiration Cytology (FNAC) is rarely diagnostic. Mostly, the diagnosis is made intraoperatively and confirmed histologically.

The authors present successful management of this condition through a face lift incision with satisfactory aesthetic outcome.

## CASE REPORT

A 62 years old Caucasian man presented with a painless lump in his right parotid region. The clinically suspected diagnosis was a benign parotid adenoma. The mass seemed attached to the parotid tissue but otherwise mobile. The Magnetic Resonance Imaging (MRI) scan revealed a 3 x 3 cm mass in the parotid tail which had a high signal on T2 and STIR sequences (Figure 1). The lump was abutting the retromandibular vein anteriorly. FNAC examination revealed a squamous-lined cyst but

a more definitive diagnosis could not be made on the cytological appearances. Sialography was not performed.

The patient underwent successful excision of the lump through a small face lift incision (Figure 2), which clinically was identified to be intraparotid dermoid cyst. No drain was inserted and the patient was discharged home the same day. The patient made an uneventful recovery with preservation of the facial nerve function. The patient was delighted with the aesthetic outcome.

Histological examination demonstrated a keratin-filled cystic lesion lined by keratinising squamous epithelium with sebaceous units in the wall. There was mild chronic inflammation, rather than dense lymphoid tissue, surrounding the cyst. Mesodermal elements, such as cartilage, were not present in the cyst wall. The cyst lay adjacent to salivary gland tissue; skin was not included in the histological specimen. The histological appearances were entirely benign and those of a dermoid cyst of the parotid gland/region (Figure 3). There was no recurrence during a 2 years follow-up.

## DISCUSSION

Cysts are generally classified according to histological cellular differentiation.<sup>2</sup> Dermoid cysts are rare congenital lesions that are frequently present at birth. Dermoid cysts result from the inclusion of the embryonic epidermis within the fusion plates and are differentiated from epidermoid inclusion cysts because of the presence of skin appendages, such as hair follicles or sebaceous glands, within the wall of the cyst.

New and Erich grouped dermoid cysts into three categories: congenital, acquired and congenital inclusion dermoid cysts.<sup>2</sup> The latter category is more applicable in the head and neck region and is further subdivided based on anatomic location and embryogenesis.<sup>2</sup> An intra-parotid dermoid cyst may be an inclusion of ectoderm during the development of branchial arch.<sup>4</sup>

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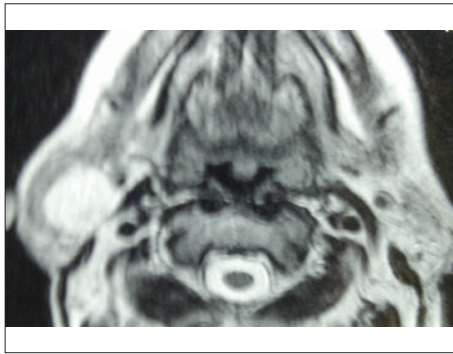
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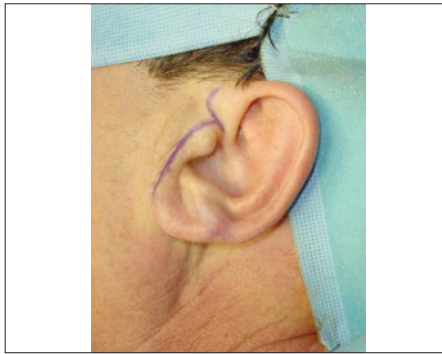
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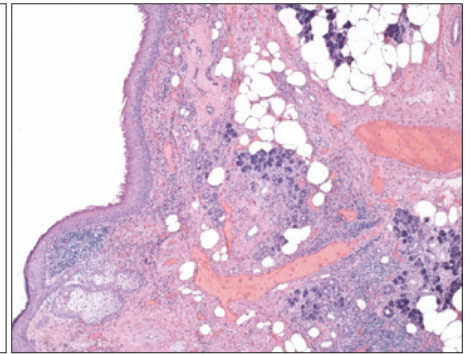
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**Figure 1:** Magnetic Resonance Imaging showing an intra-parotid lump.



**Figure 2:** Face lift incision (example).



**Figure 3:** Cyst lined by keratinising squamous epithelium with sebaceous units and mild chronic inflammation in the wall and adjacent parotid salivary gland tissue. H&E. Magnification x40.

The clinical differential diagnosis includes mucous retention cyst, parotid ductal cyst, lipoma, fibroma, haemangioma and neurofibroma. Other differential diagnoses include benign and malignant salivary gland tumours and lymphoma. Clinical and radiological investigations are often unhelpful to differentiate dermoid cyst from these possibilities.

The clinical presentation is that of a cystic mass which can be present in any part of the parotid gland including the deep lobe.<sup>4</sup> On physical examination, there are no distinctive characteristics. FNAC may be done and can be diagnostic in some cases.<sup>5,6</sup> Ultrasound may be used to differentiate solid, cystic and vascular lesions. MRI examination would display a high T2-weighted and STIR sequence suggesting either it to be a lipoma or a dermoid tumour. Pre-operative differentiation between a lipoma and a dermoid cyst can be challenging.<sup>7</sup> Computed Tomography (CT) scan has no additional diagnostic value. Therefore, an excision is required to make the definitive diagnosis. Incidence of malignant transformation of dermoid cyst is rare in the head and neck region but in other anatomic locations has been reported as 5%.<sup>8</sup>

A dermoid cyst is usually well-encapsulated and complete excision with removal of capsule is a minimal requirement to prevent recurrences.

Traditional surgical approaches include incision overlying the skin or through standard Blair's parotidectomy incision.<sup>4,6,9,10</sup> Both leave fairly obvious scarring either in the face or in the neck. A complete excision of cyst was carried out through a small face lift incision with preservation of surrounding salivary tissue. There has been no recurrence during a 2 years follow-up period. We conclude that intra-parotid dermoid cyst is an important differential diagnosis of a parotid lump. Every effort should be made to diagnose this condition pre-

operatively to counsel the patient appropriately. It is entirely possible to treat most benign parotid lesions through the face lift incision which avoids the facial and cervical scars and provides a better aesthetic outcome. The authors have demonstrated that parotid dermoid cysts can be treated successfully through a limited face lift incision with aesthetically pleasing outcome.

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