

Endoscope Assisted Cosmetic Excision of Forehead Lipoma

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Lipoma is one of the most common benign soft tissue tumors of the forehead. Multiple techniques have been described for excision of tumor of the forehead. Endoscopic techniques have gained popularity in head and neck surgery. In the excision of forehead lipomas, minimally invasive endoscopic excision allows inconspicuous incision placement, better visualization of operative field, fewer complications and faster return to work. We present a case of endoscopic excision of a forehead lipoma using a single incision approach. The procedure provided a better cosmetic result as there was no visible scar, leading to greater patient satisfaction. There were no post operative complications. In conclusion, endoscopic excision is a safe and effective method for excision of forehead lipomas. It provides a better cosmetic result and faster return to work, thereby leading to greater patient satisfaction.

Keywords: Lipoma; Endoscopic Excision; Forehead Tumor; Single Incision**Introduction**

Lipoma is one of the most common benign soft tissue tumors of the forehead. Usually, solitary lipomas are well circumscribed, lobulated lesions that are composed of fat cells. They are demarcated from the surrounding tissues by a thin fibrous capsule [1].

Multiple techniques have been described for excision of tumor of the forehead. Direct excision through the open approach has been considered the gold standard of treatment. However, this results in unaesthetic scars on the forehead [2,3]. Liposuction has also been used as an alternative treatment option. This has a disadvantage that the lipoma may be fragmented before histologic examination [2].

Since the forehead is a prominent location of the facial region, any asymmetry or scarring can be of a cosmetic concern and can have a psychological impact on the patient [4]. The use of endoscopic techniques has become increasingly common in head and neck surgery. In the excision of forehead lipomas, minimally invasive endoscopic excision allows inconspicuous incision placement,

better visualization of operative field, fewer complications and faster return to work [3].

Here, we present a case report to describe the technique for endoscopic approach for removal of a forehead lipoma and to review its outcomes.

Case Report

A 23-year-old male patient presented with a 1.2 cm x 1 cm x 0.5 cm superficial, non-tender forehead mass located 1.8cm superomedial to the left eyebrow. The mass was present since the past 2 years and had not increased in size. There was no drainage opening or discharge. There was no erythema or tenderness. Patient lacked any associated symptoms or exacerbating factors. His past medical history and family history was unremarkable.

Based on the clinical findings, a diagnosis of lipoma was made. Histopathological report confirmed the diagnosis of lipoma. When the treatment options were discussed, patient was against having a visible facial scar. Thus, he was advised to undergo an endoscopic

procedure. After explaining the risks and benefits of the procedure, a well-informed written informed consent was taken from the patient.

Figure 1: Pre-operative picture of the patient showing the location of the lipoma on the forehead.

Operative procedure

Tumor boundaries were marked on the forehead using a skin marker. The scalp and facial skin was prepared using povidine iodine solution. The procedure was performed under local anaesthesia using lignocaine hydrochloride with adrenaline (1:200000). Infiltration was also done circumferentially, above and below the tumor and along the tract for hydrodissection with the help of tumescent solution (2% lidocaine + 1:800000). This helps in creating a bloodless field for the introduction of instruments, and also frees the lipoma from the surrounding skin and subcutaneous tissues, thus, making dissection easier.

A single 1 cm parasagittal access incision was placed on the scalp 2 cm behind the hairline. The incision was planned according to the endoscopic brow lift procedure. To reduce the risk of alopecia, the incision was made parallel to the hair follicles. The incision through the scalp was made up to the periosteum. Subperiosteal

blunt dissection was done using a periosteal elevator until the base of the tumor to create an optic space for endoscopic access. A retractor-mounted endoscope and an endoscopic grasper were both introduced through the same opening. A 30 degrees Karl Storz endoscope was used for the procedure.

The location of the tumour was confirmed by manual palpation on the skin surface. This also aided in preventing skin breakthrough and injury to overlying vessels. Once the superior border of the tumor was identified, dissection from the surrounding subcutaneous tissues was done using an endodontic grasper. Since hydrodissection was done as the beginning of the procedure, minimal amount of dissection was required to free the tumor completely. The tumor was mobilized by pushing and pulling movements, which were a combination of digital pressure on the skin along with dissection and traction.

The optical cavity was checked for bleeding and closed using sutures. A pressure dressing was applied on the forehead. There was no need for the placement of any drain. The entire procedure was completed within 45 minutes. Patient did not experience any post-operative complication other than mild swelling and pain. Patient was followed up for 2 months. Cosmetic result achieved by the endoscopic approach was excellent as there were no visible scars, which allowed the patient to return to work quickly. There was no recurrence at 2 months of follow-up.

Figure 2: Excised lipoma.

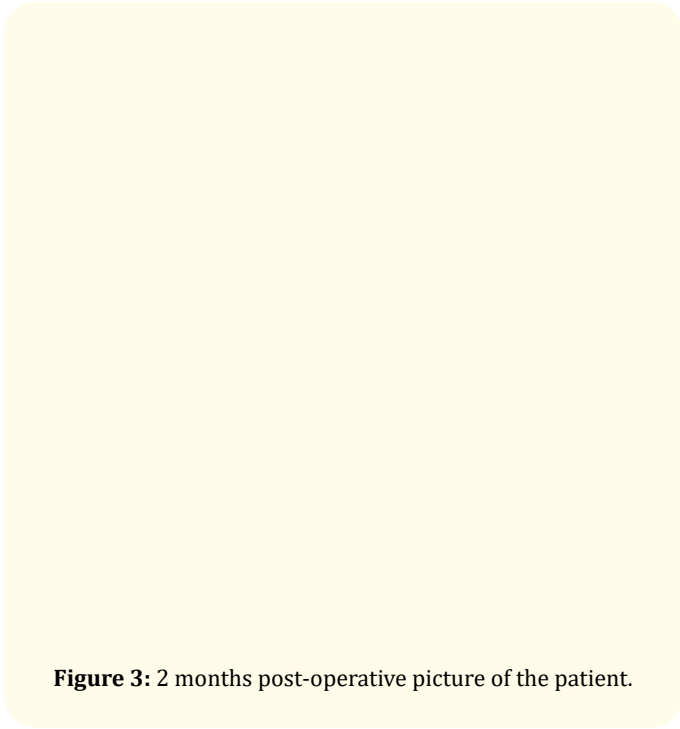


Figure 3: 2 months post-operative picture of the patient.

Discussion

Lipomas of the forehead region are usually indolent tumors apart from the obvious effects on cosmetic appearance. Since the forehead skin and subcutaneous tissues are closely adhered to the convex frontal bone, these lesions appear quite large and are of a cosmetic concern [5]. Onishi, *et al.* first described the endoscopic excision of forehead osteoma in 1995 [6]. The technique has since been used widely for excision of benign forehead tumors and the benefits of the same have been described in literature [3,7].

Endoscopic technique has multiple advantages and is relatively safe and easy to perform [8]. The endoscope allows easy dissection between the tumour and surrounding tissue through a narrow space by providing direct and magnified visualization on a TV monitor [8,9]. There is a decreased incidence of nerve injury and pain that is seen following deep incisions to the forehead in the direct excision technique. Reports have also suggested reduction of infection in patients undergoing endoscopic surgeries. Furthermore, direct visualization during dissection has been noted to reduce the risk of postoperative hematomas. In addition, endoscopic excision reduces postoperative pain and shortens hospital stays [8].

Excision via endoscopic approach does not result in an unaesthetic scar on the forehead which can have a psychological impact

on patients. Studies have found that rate of patient satisfaction was significantly higher of the patients who underwent endoscopic surgery compared to that of patients who underwent surgery via a direct approach (Do). This was mainly due to the fact that the scar from the endoscopic approach was smaller and was located on the hair bearing area of the scalp [4,8,10].

The forehead may be considered as an optimal surgical site for endoscopic surgery, as there are two possible approaches, namely, subperiosteal and subgaleal that can be used. Both approaches can start from the hair-covered scalp and extend upto the exposed target on the forehead [11]. The subperiosteal plane is generally preferred as it provides a relatively bloodless field and is easy to access in the region of the forehead [12]. Additionally, it has been found that subperiosteal dissection preserves the subgaleal blood supply and is more reliable in preserving sensation in the forehead [12].

We presented a case of successful endoscopic resection of a forehead lipoma by placing a single access incision on the scalp. Most authors prefer using atleast two incisions to allow easy access and avoid entanglement of instruments [8,13]. However, a single incision technique has been proposed to reduce the number of scars over the scalp and the risk of alopecia [10,12].

Despite the plethora of advantages, few limitations of endoscopic treatment have been listed. It is believed that endoscopic surgery is more time consuming and technically demanding. However, with proper training these can be overcome. High cost of surgery has been another concern, but as this procedure gains more popularity, the overall expenses are likely to reduce [3,8,14].

Conclusion

Endoscopic excision is a safe and effective method for excision of forehead lipomas. It provides a better cosmetic results and faster return to work, thereby leading to greater patient satisfaction. More surgeons should present this as an alternative treatment option to patients and explore its potential.

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Volume 3 Issue 7 July 2021

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