Excision of Mouth Lesions

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Updated: Aug 07, 2014

Overview

Introduction

A wide range of disorders can lead to mucosal changes in the oral cavity. Typically, lesions arise from processes that are infectious or inflammatory and that respond to medical therapy. Not infrequently, autoimmune and neoplastic diseases may affect the mucosal surfaces of the oral cavity or its contents. The latter changes often require tissue biopsy for clinical pathology review before initiation of therapy.

The initial history of the clinical presentation is most critical to formulating a differential diagnosis of potential disease processes. Important historical points to elicit include the time of onset of symptoms, the presence or absence of pain, dietary intake, and visible lesions of the face, lips, tongue, or mucosal membranes. Clinicians must also ask about the presence of any associated systemic symptoms, such as fever or weight loss, and history of prior neoplasm or malignancy. Other critical elements of the history include exposure to medications, alcohol, tobacco, chemicals, recent oral trauma or dental work, and vaccination history. Patients with HIV or other immunocompromised states, such as leukemia or neutropenia, can have opportunistic pathogens affecting mucosa. Most commonly, these are invasive fungal infections, which are not seen in otherwise healthy patients.

Most oral lesions are adequately diagnosed based on a detailed history and thorough physical examination alone and can be treated accordingly. A detailed head and neck examination should be performed, with particular emphasis on the oral cavity and oropharyngeal examination. Palpation of the face, cheeks, floor of mouth, and neck reveals any localized areas of induration, tenderness, or cysts.

The appearance of any lesions should be documented in detail (dimension, location, color) and followed closely over the following days or perhaps, weeks. However, lesions that persist despite adequate treatment or raise concerns for neoplasm should undergo excisional biopsy promptly. Any associated changes in symptoms (such as weight loss, rash, discoloration of the overlying skin) should be noted in a complete review of systems. Radiological imaging is essential for large lesions and may be reserved for lesions with either extensive involvement or critical proximity to vital structures.

A video depicting the excision of mouth lesions can be seen below.

Oral mass excision.

Relevant Anatomy

The oral cavity represents the first part of the digestive tube. It includes the lips, gingivae, retromolar trigone, teeth, hard palate, cheek mucosa, mobile tongue, and floor of the mouth. The major salivary glands are in close relation with oral cavity structures, although they are not part of the oral cavity. For more information about the relevant anatomy, see Mouth Anatomy and Tongue Anatomy.

Indications

The most common indication for the excision of an oral cavity lesion is to obtain tissue for diagnosis. Most commonly the lesions are benign and reflect congenital or acquired injuries or structures. Prompt biopsy is especially important when trying to confirm a possible soft tissue sarcoma or other neoplastic malignancy. Benign lesions, such as large mucocele, lymphangioma, or enlarging cysts, which are disrupting normal function or causing significant discomfort, may also warrant excision.

Contraindications

Excision of oral cavity lesions has few contraindications but must be planned carefully to assure high functional and cosmetic outcomes. Patients who are on medications and may be anticoagulated or with underlying bleeding disorders should undergo medical clearance prior to any major procedure. A hematologist may be consulted for management considerations. Depending on the type and severity of the coagulation disorder, patients may require pretreatment with blood products, such as transfusion of platelets or coagulation factors.

Preparation

Anesthesia

Excision of small, favorably placed lesions (eg, anterior tongue, mucosa of the lip) in cooperative patients may be performed with local anesthesia only. However, in most children, such procedures require the child to be sedated. Options include conscious sedation and general anesthesia. General anesthesia offers the benefit of airway control.

Either 1% Xylocaine with 1:100,000 epinephrine or 0.5% Xylocaine with 1:200,000 epinephrine is injected submucosally into the area immediately surrounding the lesion. The vasoconstriction induced by the epinephrine is helpful for hemostasis, and an appropriate amount of time (about 10 minutes) between injection and incision should be given. Coudert et al studied the efficacy of 2% lidocaine in the reduction of pain in children with oral mucosal lesions.[1]

Equipment

See the list below:

- Mouth gag/bite block to facilitate exposure
- 1% lidocaine (Xylocaine) with 1:100,000 epinephrine
- #15 , #11, or #10 blade scalpel
- Frazier-tipped suction # 7
- Toothed or smooth forceps
- Electrocautery with needle-tip or silver nitrate sticks
- Absorbable 3-0 or 4-0 suture (eg, Vicryl, chromic gut)

Preparation

A detailed explanation of the procedure and potential complications should be a part of obtaining informed consent from the patient. In most cases, these procedures may be performed on adults in an office or outpatient setting. However, all children and patients with significant comorbidities require the monitoring provided by a skilled anesthesiologist within the setting of an operating room. Larger lesions of the tongue or floor of mouth may lead to postoperative edema that could compromise the airway and may necessitate overnight observation. Intravenous antibiotics are dependent on other comorbidities and surgeon preference.

Complication prevention

The major complication after the procedure is bleeding. Generally, buccal and palatal mucosal lesions result with minimal bleeding. Tongue lesions may bleed more due to vascularity of the genioglossus muscle. Cauterization of bleeding points minimizes postprocedure bleeding. Deep sutures closing the tongue musculature may also be helpful in managing hemostasis.

Infection of the operative site is a rare occurrence, and routine administration of postoperative antibiotics is not necessary.

Technique

One percent lidocaine (Xylocaine) with 1:100,000 epinephrine is injected submucosally into the area surrounding the lesion. Approximately 10 minutes are allowed to elapse to allow the epinephrine-induced vasoconstriction to reach maximal effect. Either a #15 scalpel or needle-tipped electrocautery on cut mode is used to incise the mucosa in an ellipse around the lesion, with a small cuff of normal mucosa included. The lesion is grasped with the forceps and retracted gently so that deeper dissection may be done with the electrocautery or sharp dissection. A wedge of the underlying tissue is removed with the lesion. The depth of excision depends on the depth of the lesion. For most lesions of the oral mucosa, a very superficial dissection is all that is required. For deeper lesions, margins can be obtained to determine if more extensive surgery is required. Intraoperative consultation with a pathologist can provide insight into a preliminary tissue diagnosis.[2]

A combination of direct pressure and electrocautery are used to obtain hemostasis. Once adequate hemostasis is obtained the wound is closed with an absorbable suture. Closure of small, superficial defects may be performed with one layer of simple, interrupted 4-0 (chromic gut or Vicryl) sutures. Defects in the tongue may require 1 or 2 deeper, and buried sutures to close the muscle and eliminate any dead space. A 3-0 suture should be used for closure of tongue defects.

A video depicting oral mass excision can be seen below.

Oral mass excision.

Post-Procedure

Most patients heal quickly after undergoing an excision of a mouth lesion. Avoid sharp or spicy foods is generally recommended. Postoperative pain depends on the size and location of the lesion. Narcotics are effective analgesics for larger tongue-based lesions in adults. Acetaminophen with or without codeine is usually sufficient to treat pain in the pediatric population.[3]

Complications

Complications from the procedure include damage to surrounding structures, bleeding, infection, and delayed healing. Significant postoperative bleeding is a rare complication. As discussed above, preoperative identification of patients with potential bleeding disorders can alert the surgeon to a need for pretreatment or transfusion. Intraoperative attention to hemostasis through the use of either chemical or electrocautery and appropriate wound closure prevents later bleeding.

Some amount of postoperative edema along with postoperative pain is to be expected. However, excessive swelling in the floor of mouth or tongue may lead to airway compromise. Patients in whom such swelling is expected as a possibility should be observed overnight. Pain should be adequately treated to ensure the patient remains hydrated and nourished.

Infection is a rare occurrence in the immunocompetent patient. Patients who are immuno-compromised should have perioperative antibiotics and close clinical follow-up to ensure adequate healing.

Medications and Medical Devices

Postoperative pain depends on the size and location of the lesion. Narcotics are effective analgesics for larger tongue-based lesions in adults. Acetaminophen with or without codeine is usually sufficient to treat pain in the pediatric population.

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Disclosure: Serve(d) as a director, officer, partner, employee, advisor, consultant or trustee for: Cerescan;RxRevu;SymbiaAllergySolutions
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References

1. Coudert AE, Ostertag A, Baaroun V, Artaud C, Ifi-Naulin C, Druo JP, et al. Phase III, randomized, double-blind, placebo-controlled trial of topical 2 % lidocaine for the prevention and treatment of oral mucosal pain in children. *Clin Oral Investig*. 2014 May. 18(4):1189-94. [Medline].
2. Cummings CW, Flint PW, Harker LA. *Cummings Otolaryngology: Head and Neck Surgery*. 4th. A Mosby Title;
3. Ward RF. Healy GB. *Common Problems in Pediatric Otolaryngology*. Chicago: Year Book Medical Publishers; 1990.
4. Byron Bailey. *Atlas of head & neck surgery--otolaryngology*. Second Edition. Lippincott Williams Wilkins; 2001.
5. Gonzales C. Bluestone CD, Stool SE, Kenna MA. *Pediatric Otolaryngology*. Philadelphia: Saunders; 1996.