

THEORY CLASS

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Gingivectomy would mean excision of gingival. However, in certain clinical situations, it still can be performed as an effective procedure.

GINGIVECTOMY



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INTRODUCTION:

Gingivectomy would mean excision of the gingiva.

By removing the pocket wall, this procedure provides visibility & accessibility for complete calculus removal & thorough smoothing of the roots which would create a favorable environment for healing as well as restoration of normal physiologic gingival contours.

However with the introduction of more sophisticated & precise flap procedures, this technique has limited uses in the treatment of some clinical conditions which would require surgical procedures. However, in certain clinical situations, it still can be performed as an effective procedure.

Indications:

Elimination of pockets regardless of their depth, if the pocket wall is fibrous & firm

INDICATIONS

1. GINGIVAL ENLARGEMENTS



2. SUBGINGIVAL FINISH LINES OF CROWN

3. SUBGINGIVAL CARIES



4. SUPRABONY PERIODONTAL ABSCESS

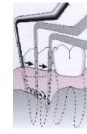


Indications

- Gingivectomy during orthodontic tooth movement



Contraindications



Need for bone surgery/examination of bone shape/morphology

Situations in which bottom of pocket is apical to MGJ



ESTHETIC CONSIDERATIONS PARTICULARLY IN ANTERIOR MAXILLA



LIMITATIONS:

- PRESENCE OF EXOSTOSIS BENEATH GE- as there could be delayed wound healing
- SEVERE CASES-OSSEOUS NECROSIS
- GINGIVOPLASTY ALSO CANNOT LEAD TO OPTIMAL CLINICAL OUTCOME

Surgical Gingivectomy-STEPS

STEP 1

- POCKETS ON EACH SURFACE ARE EXPLORED WITH A PERIODONTAL PROBE & MARKED WITH A POCKET MARKER
- EACH POCKET IS MARKED IN SEVERAL AREAS TO OUTLINE ITS COURSE ON EACH SURFACE

STEP 2

- PERIODONTAL KNIVES (Eg: kirkland knives) are used for incisions on the facial & lingual surfaces & those distal to the terminal tooth in the arch
- Orban knives are used for interdental incisions
- B.P. BLADES-# 12, 15, SCISSORS ARE ADDITIONAL INSTRUMENTS USED

Surgical Gingivectomy

STEP 2

- INCISIONS ARE STARTED APICAL TO THE POINTS MARKING THE COURSE OF THE POCKETS & IS DIRECTED CORONALLY TO A POINT BETWEEN THE BASE OF THE POCKET & CREST OF THE BONE
- SHOULD BE AS CLOSE TO BONE AS POSSIBLE WITHOUT EXPOSING IT, TO REMOVE SOFT TISSUE CORONAL TO THE BONE
- EXPOSURE OF BONE IS UNDESIRABLE
- IF OCCURS, IT HEALS WITH MINIMAL COMPLICATIONS, IF PACK IS ADEQUATELY PLACED

Surgical Gingivectomy

STEP 2

- INTERRUPTED/CONTINUOUS INCISIONS ARE PLACED
- INCISION SHOULD BE BEVELED AT $\sim 45^\circ$ TO THE TOOTH SURFACE
- SHOULD RECREATE NORMAL FESTOONED PATTERN OF GINGIVA
- FAILURE TO BEVEL-LEAVES A BROAD, FIBROUS PLATEAU WHICH WILL TAKE LONGER TIME TO HEAL, DEVELOP NORMAL PHYSIOLOGIC CONTOUR
- PLAQUE & CALCULUS ACCUMULATION MAY LEAD TO RECURRENCE OF POCKET

STEP 3

- REMOVE EXCISED POCKET WALL
- CLEAN
- EXAMINE ROOT SURFACE
- MOST APICAL LIGHT BAND LIKE ZONE WHERE TISSUES ARE ATTACHED
- CORONALLY CALCULUS REMNANTS, ROOT CARIES, OR RESORPTION MAY BE FOUND
- GRANULATION TISSUE MAY BE FOUND ON EXCISED SOFT TISSUE

Surgical Gingivectomy

| | |
|---------------|---|
| STEP 4 | <ul style="list-style-type: none">•CURETTE GRANULATION TISSUE & REMOVE ANY REMAINING CALCULUS & NECROTIC CEMENTUM TO LEAVE A SMOOTH CLEAN SURFACE |
| STEP 5 | <ul style="list-style-type: none">•COVER THE AREA WITH SURGICAL PACK |

INTERNAL GINGIVECTOMY/OSTEOPLASTY

HORIZONTAL INCISION TO CREATE MUCOPERIOSTEAL FLAP WAS INTRAGINGIVAL INORDER TO THIN THE GINGIVAL TISSUES

BURS USED TO REMOVE THE EXOSTOSIS
FLAP TISSUE THINNED, REPOSITIONED & SUTURED BACK TO PLACE

FINAL RESULT

3 MONTHS LATER- HEALTHY GINGIVA

- **IN MAXILLA, WHERE THERE ARE NO EXOSTOSES; A PURE GINGIVOPLASTY WAS PERFORMED**
- **THIS EXCELLENT THERAPEUTIC RESULT CAN ONLY BE MAINTAINED BY INTENSIVE ORAL HYGIENE & SHORT INTERVAL PROFESSIONAL RECALL**
- **ALL PSEUDOPOCKETS HAS BEEN ELIMINATED**
- **CLINICAL INDICES IN THE ANTERIOR SEXTANTS**
- PI-8%
- BOP-10%

GINGIVECTOMY IN PHENYTOIN INDUCED GE

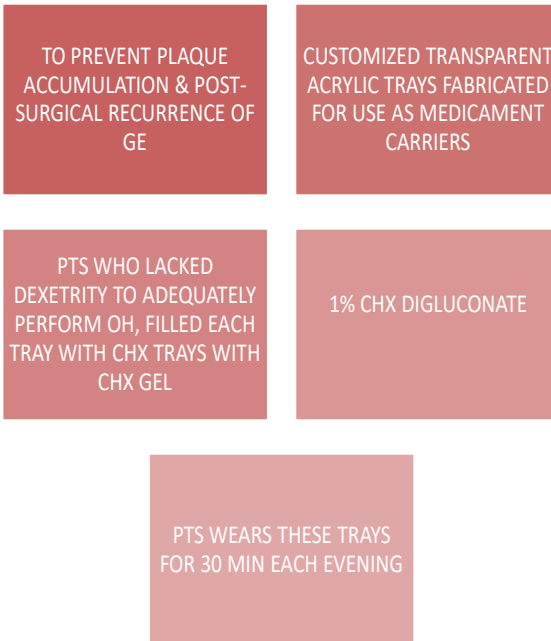
Rx of epilepsy & other CNS disturbances, diphenhydantoin-containing drugs

Hydantoin
Phenytoin

½ of the pts who take medications exhibit on a chronic regimen exhibit esthetically objectionable GO-pharmacogenetic factor

GV/GP IS THE TREATMENT OF CHOICE IN SUCH CASES

MANAGEMENT OF PATIENT



FOLLOW-UP -ONE YEAR AFTER GV/GP

- tray should extend beyond AG & are well adapted thus preventing seepage of the gel into the oral cavity

GINGIVOPLASTY/GINGIVECTOMY- CORRECTIVE PROCEDURES FOR EXPOSING MARGINS OF RESTORATIONS & CAVITY PREPARATIONS

LOST ITS SIGNIFICANCE AS A RADICAL SURGICAL THERAPY FOR PERIODONTITIS (POCKET ELIMINATION)

THESE PROCEDURES MAINTAIN THEIR VALUE AS CORRECTIVE LOCAL PROCEDURES

MARGINS OF RESTORATIONS/CROWNS MAY BE LOCATED SUPRAGINGIVALLY ALSO FOR ESTHETIC REASONS

PRECISE TOOTH PREPARATIONS & IMPRESSION TAKING IN SUBGINGIVAL AREAS IS ALSO DIFFICULT

SUBGINGIVAL RESTORATIONS CARRIES/FINISH LINE CROWN PREPARATIONS

GINGIVECTOMY INCISIONS MAY BE REQUIRED

- FOR PALATAL- 45 DEGREE INCISION IN PALATAL AREA IF ANATOMIC SITUATION PERMITS –PAINFUL LEAVES LARGE WOUND AREA

- SUCH PATIENTS REQ 2ND PACK POST-OP

3 MONTHS POST-OP FOLLOWING GINGIVECTOMY

- PT HOME CARE ESSENTIAL
- IF IT RECURS GO THROUGH PHASES OF TREATMENT

Gingivoplasty

- Similar to gingivectomy, but its objectives is different
- Gingivectomy is performed to eliminate pockets & includes reshaping as part of the technique
- Gingivoplasty is reshaping of the gingiva to create physiologic gingival contours with the sole purpose of recontouring the gingiva in the absence of pockets
- Gingival deformities- gingival clefts, craters, crater-like IDP caused by NUG, GE

GINGIVOPLASTY

- ACCOMPLISHED WITH –
- PERIODONTAL KNIFE
 - SCALPEL
 - ROTARY COARSE DIAMOND STONES
 - ELECTRODES
- SIMILAR TO FESTOONING OF An ARTIFICIAL DENTURE, WHICH CONSISTS OF TAPERING GINGIVAL MARGIN, CREATED A SCALLOPED MARGINAL OUTLINES, THINNING THE AG, CREATING VERTICAL ID grooves & shaping the interdental papillae

HEALING AFTER SURGICAL GINGIVECTOMY-INITIAL RESPONSE

- FORMATION OF PROTECTIVE BLOOD CLOT
- UNDERLYING TISSUE BECOMES ACUTELY INFLAMED WITH NECROSIS
- CLOT IS THEN REPLACED BY GRANULATION TISSUE
- IN 24 HRS, > CONNECTIVE TISSUE CELLS, ANGIOBLASTS BENEATH THE SURFACE LAYER OF INFLAMMATION & NECROTIC TISSUE
- > GCF FLOW

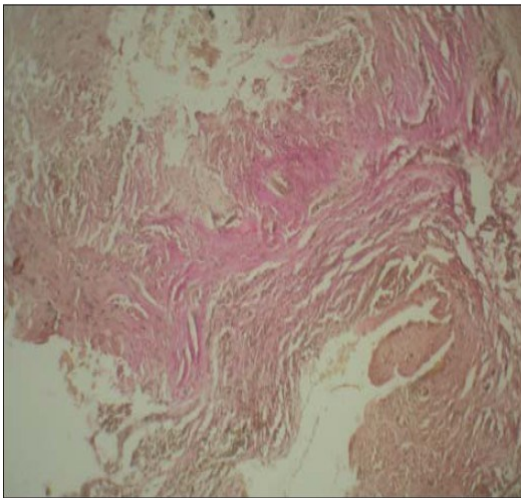
AFTER 12- 24 HRS

- EPITHELIAL CELLS @ THE MARGINS OF THE WOUND BEGIN TO MIGRATE OVER GRANULATION TISSUE, SEPARATING IT FROM THE CONTAMINATED SURFACE LAYER OF THE CLOT
- EPITHELIAL ACTIVITY @ THE MARGINS REACHES A PEAK IN 24-36 HRS
- NEW EPITHELIAL CELLS ARISE FROM BASAL & DEEPER SPINOUS LAYERS OF THE EPITHELIAL WOUND EDGE & MIGRATE OVER THE WOUND EDGE & MIGRATE OVER THE WOUND A FIBRIN LAYER I.E., LATER RESORBED & REPLACED BY A CONNECTIVE TISSUE BED
- EPITHELIAL CELLS ADVANCE BY A TUMBLING ACTION WITH THE CELLS BECOMING FIXED TO THE SUBSTRATE BY HEMIDESMOSOMES & A NEW BASEMENT LAMINA

HEALING:3RD DAY

- NUMEROUS YOUNG FIBROBLASTS ARE LOCATED IN THE AREA
- HIGHLY VASCULAR GRANULATION TISSUE GROWS CORONALLY, CREATING A NEW FREE GINGIVAL MARGIN & SULCUS
- CAPILLARIES DERIVED FROM BLOOD VESSELS OF PDL MIGRATE INTO GRANULATION TISSUE
- WITHIN 2 WEEKS THEY CONNECT WITH GINGIVAL VESSELS

HEALING

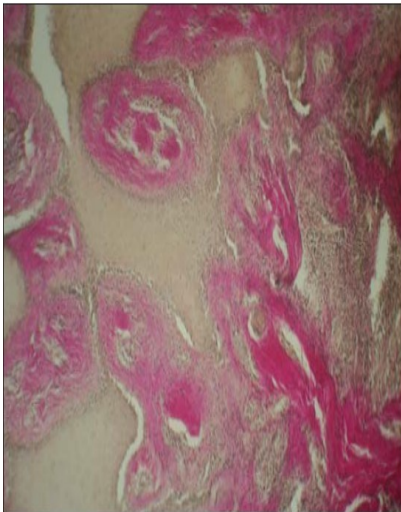


- **at day 7 from scalpel treated site showing moderately fibrous connective tissue with dense inflammatory infiltrate**

HEALING AFTER 5-14 DAYS

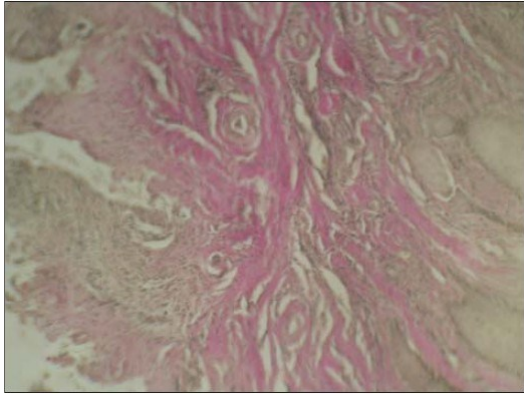
- SURFACE EPITHELISATION IS GENERALLY COMPLETE
- DURING THE 1ST 4 WEEKS, KERATINIZATION IS MUCH LESS THAN IT WAS BEFORE SURGERY
- COMPLETE EPITHELIAL REPAIR TAKES ABOUT 1 MONTH
- COMPLETE EPITHELIAL REPAIR TAKES ABOUT 1 MONTH
- VASODILATION & VASCULARITY BEGIN TO DECREASE AFTER THE WOUND HEALING & APPEAR TO BE ALMOST NORMAL BY 6-10 TH DAY
- MAXIMUM GCF FLOW- AFTER 1 WEEK, COINCIDING WITH TIME OF MAXIMAL INFLAMMATION

HEALING



- **from the lased site at day 7 revealing densely fibrous connective tissue with fewer inflammatory cells and re-epithelization**

HEALING



- HEALING AFTER 21 DAYS
- **Histological and clinical evaluation of gingival healing following gingivectomy using different treatment modalities**
- **JOURNAL OF ICDRO, vol 5, issue 1, pg 31-35**

SUMMARY

- THIS SURGICAL TECHNIQUE HAS A LONG HISTORY OF USE IN PERIODONTAL SURGERY
 - THIS TECHNIQUE HAS SOME USE FOR MINIMAL REDUCTION OF REDUNDANT GINGIVAL TISSUE MANY LIMITING FACTORS SUCH AS-
1. CONSERVATION OF KERATINIZED GINGIVA
 2. MINIMAL GINGIVAL TISSUE LOSS TO MAINTAIN ESTHETICS
 3. ADEQUATE ACCESS TO THE OSSEOUS DEFECTS FOR DEFINITIVE DEFECT CORRECTION
 4. MIN POST SURGICAL DISCOMFORT & BLEEDING BY ATTEMPTING SURGICAL PROCEDURES THAT WILL ALLOW PRIMARY CLOSURE