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Periodontal Dressings – Uses and Controversies

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INTRODUCTION:

In most cases, after the surgical periodontal procedures are completed, the area is covered with a surgical pack. In general, dressings have no curative properties or posses any factors for healing. Surgical wound dressings have been employed over several centuries for the purpose of protection of surgical sites, to prevent postoperative infection and to accelerate healing. Periodontal dressings, also known as periodontal packs, provide similar benefits when applied after periodontal surgical procedures. It acts as a physical barrier that is placed in the surgical site to protect the healing tissues from the forces produced during mastication for comfort and close adaptation.

They can broadly be categorized as eugenol based dressings and non-eugenol dressings. Over the years, many modifications have been made to the composition of such dressings to improve their physical and therapeutic properties. The use of periodontal dressings has been widespread for many years. Recently, however, the value of periodontal dressings and their effects on periodontal wound healing have been questioned.

AAP (1986) definition of periodontal dressing:

Surgical dressing applied over and protective to the surgical wound produced by periodontal surgical procedure

HISTORICAL ASPECT:

1923 – Dr A W Ward- Wonder pak,consist of - Zno Eugenol mixed with - Alcohol , pine oil, Asbestos fibers.

Purpose – to cover and protect surgical area, splint loose teeth, immobilize injured areas, desensitize teeth and patient comfort

1942 – Box and Ham –use of Zno Eugenol dressing to perform chemical curettage in treatment of NUG – tannic acid was included for haemostasis and astringency- thymol was used as an antiseptic. Claim – destroys spirrullum and fusiforme bacteria

1943 – Orban - Zno Eugenol + Paraformaldehyde to perform Gingivectomy by chemosurgery. This dressing caused extensive necrosis of the gingival and bone and was felt to promote abscess formation by blockage of exudate.

1947 – Bernier and Kaplan – primary purpose - for wound protections, constituents for healing – secondary purpose

1962 - Ariaudo and Tyrell – to position and stabilize apically positioned flap

1962 - Blanquie – control post operative bleeding, decrease post operative comfort, allow for tissue healing under aseptic conditions, splint loose teeth, prevent reestablishment of pocket, desensitize cementum

1964 – Gold – splint teeth, as it was cement dressing that set hard.

1964 - Weinreb and Shapiro - Zno Eugenol impregnated cords into periodontal pockets ,but found to be less effective than gingivectomy.

1969 - Baer et al stated that primary purpose of a dressing – patient comfort, protect wound from further injury during healing – hold flap in position. They pointed that the dressing should not be used to control postoperative bleeding, nor to splint teeth

USES OF PERIODONTAL DRESSING:

- ✓ Provide mechanical protection for the surgical wound and therefore facilitate healing
- ✓ Enchancement of patient comfort

- ✓ Prevents post operative bleeding by maintaining the initial clot in place
- ✓ Maintainance of debris free area
- ✓ Control of bleeding
- ✓ Supports mobile teeth during healing
- ✓ Helps in shaping or molding the newly formed tissue
- ✓ Provide patient comfort by isolating area from external irritations or injuries

PHYSICAL PROPERTIES OF DRESSING MATERIAL:

Periodontal dressing material

- should be slow-setting to allow manipulation and to create a smooth surface causing no irritation,
- should be flexible enough to withstand distortion and displacement,
- should be adhesive and coherent without being bulky,
- must have dimensional stability to pre-vent salivary leakage and plaque accumulation
- should have a smooth surface
- should have bactericidal property
- should not interfere with healing
- should not induce allergic reaction
- should have acceptable taste and a good shelf life
- should be inexpensive and easily available.

LINEAR DIMENSIONAL CHANGE:

The physical properties of periodontal dressings are believed to have a noticeable effect on their clinical performance, especially in regard to adaptation to the wound area. **Gjerdet and Haugen** measured linear dimensional changes of freshly prepared samples of Coe-Pak, Peripac and Wondrpak. Peripac expanded while the other dressings contracted; it was felt that the expansion of Peripac may be related to movement of the dressing over the wound site with consequent irritation of the tissues.

ADHESION:

Haugen et al. tested the adhesive properties of Coe-Pak, Peripac and Wondrpak to tooth surfaces and to soft tissue. Coe-Pak displayed somewhat better adhesion than Wondrpak, and Peripac did not have any adhesive strength at all. However, none of the dressings displayed sufficient adhesion for retention, and it was concluded that mechanical interlocking was necessary to hold dressings in place. Similar results have been reported by others.

VISCOCITY AND REACTIONS WITH RESTORATIONS:

Watts and Combe compared Coe-Pak, Peripac and Peripac Improved for their effects on composite filling material and on a glass ionomer cement. All three caused a small amount of softening of the composite but had little effect upon the glass ionomer cement. Placement of adhesive foil between a dressing and teeth with composite restorations, to protect them from deterioration, was recommended. When the viscosity of Coe-Pak, Peripac and Peripac Improved was tested, none of the dressings exhibited ideal flow properties during manipulation and adaptation, and no dressing exhibited an adequately well defined set. This was felt to be a clinical disadvantage.

These studies show that current dressings lack the ideal properties for clinical use even though they exhibit certain desirable characteristics such as plasticity and adhesiveness. Further research is needed to improve the physical properties of dressings.

PREPARATION AND APPLICATION OF DRESSING:

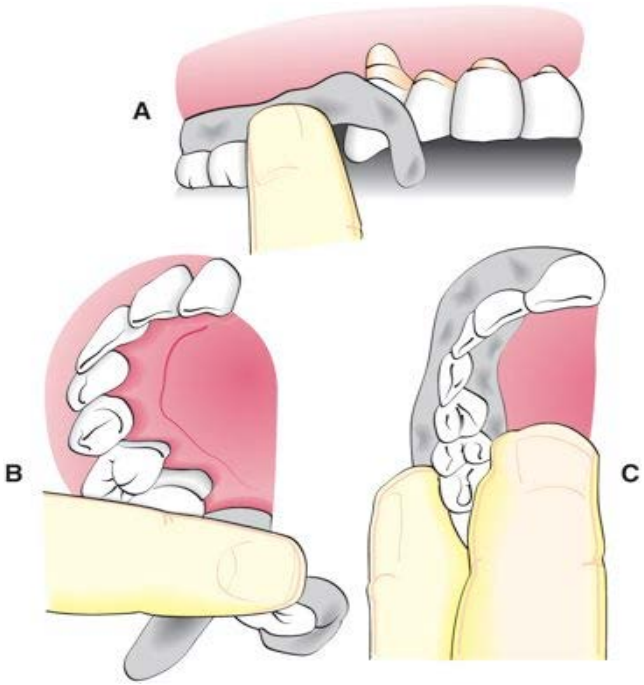
PREPARATION OF THE SURGICAL PACK (COE-PAK)

1. Zinc oxide packs are mixed with noneugenol liquid on a wax paper pad with a wooden tongue depressor. The powder is gradually incorporated with the liquid until a thick paste is formed.

2. Coe-Pak is prepared by mixing equal lengths of paste from tubes containing the accelerator and the base until the resulting paste is a uniform color. (A, B, C)

3. A capsule of tetracycline powder can be added at this time. The pack is then placed in a cup of water at room temperature. (D)

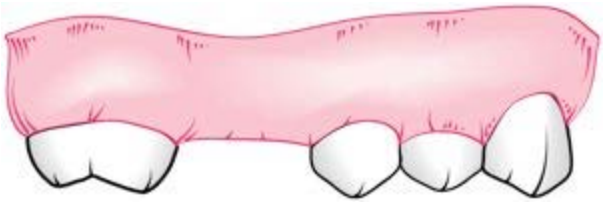
4. In 2 to 3 minutes the paste loses its tackiness and can be handled and molded; it remains workable for 15 to 20 minutes. Working time can be shortened by adding a small amount of zinc oxide to the accelerator before spatulating.



5. The pack is then rolled into two strips approximately the length of the treated area. The end of one strip is bent into a hook shape and fitted around the distal surface of the last tooth, approaching it from the distal surface. The remainder of the strip is brought forward along the facial surface to the midline and gently pressed into place along the gingival margin and interproximally.

6. The second strip is applied from the lingual surface. It is joined to the pack at the distal surface of the last tooth, then brought forward along the gingival margin to the midline.

7. The strips are joined interproximally by applying gentle pressure on the facial and lingual surfaces of the pack. For isolated teeth separated by edentulous spaces, the pack should be made continuous from tooth to tooth, covering the edentulous areas



PRECAUTIONS TO BE TAKEN:

Excess pack irritates the mucobuccal fold and floor of the mouth and interferes with the tongue. Overextension also jeopardizes the remainder of the pack because the excess tends to break off, taking pack from the operated area with it.

Pack that interferes with the occlusion should be trimmed away before the patient is dismissed. Failure to do this causes discomfort and jeopardizes retention of the pack.

Retention of Packs

Periodontal dressings are usually kept in place mechanically by interlocking in interdental spaces and joining the lingual and facial portions of the pack.

In isolated teeth or when several teeth in an arch are missing, retention of the pack may be difficult. Numerous reinforcements and splints and stents for this purpose have been described. Placement of dental floss tied loosely around the teeth enhances retention of the pack.

Antibacterial Properties of Packs

Improved healing and patient comfort with less odor and taste have been obtained by incorporating antibiotics in the pack. Bacitracin, oxytetracycline (Terramycin), neomycin, and nitrofurazone have been tried, but all may produce hypersensitivity reactions. The emergence of resistant organisms and opportunistic infection has been reported.

Incorporation of tetracycline powder in Coe-Pak is generally recommended, particularly when long and traumatic surgeries are performed. Contact allergy to eugenol and rosin has been reported.

INDICATIONS FOR DRESSING:

Specific situations where use of periodontal dressing are indicated:

1. Retention of apically positioned flap
2. To protect free gingival graft and donor site
3. Open wound case: gingivectomy, biopsy site
4. To facilitate the retention of local drug delivery agents in subgingival site
5. In periodontal regeneration to protect graft site and to prevent flap displacement and loss of graft material
6. Acts as a template –prevents excess granulation tissue formation
7. Protects the denuded bone from further injury.

TYPES OF PERIODONTAL DRESSINGS:

1. Eugenol dressings
2. Zno non eugenol dressings
3. Photocure dressings
4. Methacrylate dressings
5. Collagen materials
6. Cyanoacrylate
7. Oral adhesive bandages
8. Resopac
9. Wax pack
10. Periodontal varnish

EUGENOL BASED PACKS (Hard Pack):

Packs based on the reaction of zinc oxide and eugenol include the Wondr–Pak developed by Ward in 1923 and several other packs that use modified forms of Ward's original formula. They contain about 40 to 50% eugenol, but the set material always contains some free eugenol, which increases in amounts as the zinc eugenate decomposes. The addition of accelerators such as zinc acetate gives the dressing a better working time.

Zinc oxide–eugenol dressings are supplied as a liquid and a powder that are mixed before use. Eugenol in this type of pack may induce an allergic reaction that produces reddening of the area and burning pain in some patients. This has been shown to cause tissue necrosis and

delayed healing. **Radden** also found that free eugenol caused a marked inflammatory reaction, delayed healing and necrosis of the tissue.Asbestos was found to have the potential for causing asbestos lung cancer and tannic acid cause liver damage when absorbed systemically.

Available in 2 forms:

1. Powder liquid forms:

Eg: Wards wondr pack

Kirkland Kaiser Pack

Box pack

2. Paste forms:

Eg: peridress

COMPOSITION OF WARDS WONDR PACK:

POWDER	LIQUID
ZINC OXIDE – antiseptic and astringent	ISOPROPYL ALCOHOL (10%)
POWDERED ZINC	CLOVE OIL
RESIN	EUGENOL
TALC	PEANUT AND PINE OIL – regulates setting time
ASBESTOS	CAMPHOR
	COLORING MATERIALS

COMPOSITION OF KIRKLAND KAISER PACK:

POWDER	LIQUID
ZINC OXIDE	EUGENOL - anesthetic, antiseptic and obtundent
ROSIN	PEANUT OIL - regulates setting time
KAOLIN	ROSIN - acts as a filler, increases the strength, speeds the reaction and it yields a smoother and more homogenous product
ZINC STEARATE	
TANNIC ACID – haemostatic	
ASBESTOS	

Paste form: These forms of dressing containing eugenol are dispensed as two separate pastes-

Tube-1 base - 87% zinc oxide,
13% fixed vegetable or mineral oil,

Tube-2 accelerator – 12% oil of clove or eugenol,
50% gum or polymerized rosin,
20% filler (silica type),
3% lanolin

MECHANISM OF EUGENOL SETTING:

ZnO + E = ZnOE

ROLE OF EUGENOL IN DRESSING:

It acts as an obtundent. This effect is useful in covering open wounds like gingivectomy
Possess antiseptic properties

Disadvantages include - Burning sensation, unpleasant taste, causes allergic reactions, tissue necrosis & bone sequestration. Crazing of composite restoration was seen in some. Burning sensation Sets to hard cement like consistency, lack of smoothness (gives rise to rough edges and ulceration) therefore difficulty in adaptation. Frequency of fractures was also noted.

NON EUGENOL BASED PACKS (Soft Pack):

The reaction between a metallic oxide and fatty acids is the basis for Coe-Pak, which is the most widely used dressing in the United States. This is supplied in two tubes, the contents of which are mixed immediately before use until a uniform color is obtained. One tube contains zinc oxide, an oil (for plasticity), a gum (for cohesiveness), and lorothidol (a fungicide); the other tube contains liquid coconut fatty acids thickened with colophony resin (or rosin) and chlorothymol (a bacteriostatic agent).

This dressing does not contain asbestos or eugenol, thereby avoiding the problems associated with these substances. Other noneugenol packs include cyanoacrylates and tissue conditioners (methacrylate gels). However, these are not in common use. **“Perio Putty”** is another non eugenol dressing in current use which contains methyl- and propyl-parabens for their effective bactericidal and fungicidal properties and benzocaine as a topical anaesthetic.

Baer et al 1960 described the use of a non - eugenol dressings containing zinc oxide, bacitracin and hydrogenated fat. The material did not set to hard consistency as do eugenol

dressings, and bacitracin was believed to aid in healing.It was felt to be a superior dressing due to the absence of tissue irritation and hard sharp edges of eugenol dressings.

Developed in 1950s

1. Basic Ingredients

a. base

b. Accelerator

2. Brand names

Coe-Pak Dr Gene Moinar of coe –laboratories, Chicago, USA

Commercial examples:

- ✓ Coe pak
- ✓ Peripac
- ✓ Periocare
- ✓ Perioputty
- ✓ Septopack
- ✓ Zone periodontal pack
- ✓ Nobotec

COE PAK:

- Most commonly used in India
- Available as manual mix or automix system.

Manual mix system supplied as two pastes:

BASE	CATALYST
ZINC ZCETATE	ZINC OXIDE
ROSIN	VEGETABLE OIL
CELLULOSE	CHLOROTHYMOL
NATURAL GUMS	MAGNESIUM OXIDE
WAXES	SILICA
FATTY ACIDS	RESIN
ALCOHOL	LOROTHIDOL

Manual mix systems are available as 2 types:

- Regular set
- Hard and fast set

Consistency	Plastic	Heavy but still plastic
After mix, ready to use by	3min	1min
Working time	10-15min	5-8min
Cohesiveness	10-15min	5-10min
Final hardness	30min	10min

AUTOMIX COE PACK

It comes in 2 separate tubes which are placed in one cartridge.

Advantages:

Time saving

Disadvantage:

- Sets harder than manual mix packs. Hence may result in sharp edges
- Relatively non sticky

PERIPAC:

- Premixed pack
- Developed by Haugen and Germo
- Consists of:
    - ✓ Zinc oxide-6.4%
    - ✓ Calcium phosphate-68.4%
    - ✓ Zinc sulphate-1.0%
    - ✓ Resin-24%
    - ✓ TEGDME-2%

Triethylene-glycerol-dimethacrylate when exposed to air or moisture it sets by evapouration.

ADVANTAGES:

As it is premixed, it saves time.

DISADVANTAGES:

- ✓ Brittle in nature
- ✓ Resulted in greater pain and discomfort in some cases
- ✓ Lack of cohesiveness.

PERIOCARE:

Two paste, highly elastic periodontal dressing which sets resiliently hard does not chip or fall apart in the mouth. After mixing, Perio Care is ready to be picked up with wet fingers in about 75-90 seconds. It has a 7 minute working time and sets in 15minutes. It is patient pleasing, and has a neutral odour and taste. It contains no eugenol or asbestos.

PERIOPUTTY:

Methyl and Propyl parafens –bactericidal and fungicidal property

Benzocaine – topical anesthetic

COLLAGEN DRESSING

It is collagen sponge; an example of this dressing is CollaCote (Helitrex, lac). This material is Type-1 collagen, which is derived from bovine Achilles tendon. It is a completely resorbable dressing that is used to cover and protect palatal graft sites. Other brand names include Colla Tape, Colla Plug.

METHACRYLATE GELS

Methacrylate gels were used primarily in dentistry as tissue conditioners or as denture liners. It is soft and resilient nature, flows under pressure. It cannot be used alone as a dressing because of its poor retention. It has been used in conjunction with zinc oxide-non eugenol dressings as more stiffness has been obtained with inclusion of ZnO powder.

Advantages include – It protects the wound bed, controls bleeding and stabilizes blood clot

It also provides matrix for tissue in growth and accelerates wound healing process

LIGHT CURE DRESSING MATERIALS:

It is available in a syringe for the direct application, or dispensing on a mixing pad and placement intra orally. Most acceptable light cured periodontal dressing used now a day is ***Barricaid.*** It is tinted for superior esthetics, offers protection and appealing appearance and usually used in anterior region.

The principle ingredients of these materials are polyether urethane dimethacrylate resin, silanated silica, visible light cure (VLC) photo-initiator and accelerator, stabilizer, colorant. It contains polymerisable monomers that may cause skin sensitization (allergic contact dermatitis) in susceptible persons. Barricade is designed for both direct and indirect placement.

Direct placement:

Using sterile, dry gauze, dry the buccal or lingual tooth surfaces adjacent to the surgical site. Remove the tip from the disposable syringe. Dispense the material at the juncture of the cervical one-third of the teeth

Indirect placement:

Place a thin layer of lubricant on a clean mixing pad. With gloved finger, lightly lubricate, roll the ribbon of dressing off the pad. The material may be muscle moulded, contoured with a plastic instrument, carver, or finger pressure. Expose barricaid to a visible light-curing unit for at least 10 seconds per tooth per side (buccal or lingual).

Composition:

1. Polyethylene urethane dimethacrylate
2. Silanated SiO2 filler
3. Photoinitiator
4. Accelerator
5. Colorant

Advantages:

- ✓ Transparent-can be used in aesthetically important areas
- ✓ Saves time-no mixing required

Disadvantage:

- ✓ Free monomer can leach out causing allergy and damage to fibroblasts
- ✓ Need for eye protection
- ✓ Expensive
- ✓ Sets to hard consistency.

Gilbert (1994)- reported that fully cured material had no effect on fibroblasts cells. But uncured material produced zones of growth inhibition and cell death in fibroblast culture.

Thortenson (1996)-in vitro study conducted to study the effect of addition of chlorhexidine and p-chlorophenyl hexoctidine bisguanide on physical properties of barricade. Both materials reduced the elastic modulus of barricade.

INTRA-ORAL ADHESIVE BANDAGES:

It is composed of polyisobutylene, sodium carboxy methyl cellulose, pectin, gelatin and a polyethylene backing and is supplied in this form (2x4x0.02) and a thick form (3x4x0.06).

WAX PACK:

Mixture of coca butter and paraffin in equal amounts, available in thin strips and can be cut into prescribed sizes and applied after gingivectomy and other surgical procedures.

CHLORHEXIDINE AS AN ADDITIVE TO DRESSING:

Asboe-Jorgensen et al (1974) found that a dressing containing chlorhexidine promoted healing because it decreases the bacterial colonization of the wound. Following bilateral flap surgery, one side received a 0.2% chlorhexidine rinse interdentally, and healing was examined for up to 36 days post surgically. The sites treated with chlorhexidine had less gingival exudate, less bleeding and lower gingival index scores than the control sites.

CYANOACRYLATES (CHEMICAL ADHESIVES):

First synthesized by Coover et al (1959). Bhaskar et al (1966) reported on the use of cyanoacrylates as a dressing over experimentally produced tongue injuries in rats and stated that butyl and propyl forms were phagocytosed locally and that healed areas following the use of these adhesives were indistinguishable from those where silk sutures were used. Cyanoacrylate is either applied in drops or sprayed on the tissue. The advantage is that they function without the use of special catalysts.

COMMERIAL PRODUCTS:

Periacryl

Histocryl

Superglue

Miracle glue

ADVANTAGES:

- Can set even in case of blood/saliva
- Accelerates healing as it completely seals the area plaque free
- Less bulky
- Bacteriostatic
- Hemostatic
- Time saving
- Precise placement of flaps
- Re application

DISADVANTAGES:

- Difficult to apply in posterior parts
- Inhalation may be hazardous
- Sets very fast
- If material gets trapped b/w flaps□healing delayed
- Cannot be moulded in conventional manner

STUDIES ON CYANOACRYLATE:

1. **Oshctein et al 1969-** compared cyanoacrylate, eugenol and non eugenol packs in apically positioned flaps in 16 beagle dogs. Histological and clinical better results with cyanoacrylate.
2. **Forrest 1974-**compared cyanoacrylate with silk sutures in 30 patients. Results showed no difference after 14days. But, cyanoacrylate produced rapid haemostasis and better patient acceptance
3. **Levin et al 1975-**reviewed the cyanoacrylate dressings following various flaps and mucogingival procedure in 725 patients. He reported that the material is close to ideal dressing material.

CONTROVERSIAL ASPECTS OF PERIODONTAL DRESSINGS:

1. **Effect on wound healing:**

   Studies comparing the tissue-irritating properties of periodontal dressings have mainly involved comparisons between eugenol-containing and non eugenol dressings. However, the results conflict, probably due to the lack of standardization of experimental conditions. Implant studies provide a more controlled environment to study the irritating effects of dressings; some have shown that eugenol dressings are more irritating than non eugenol dressings.

   Recently, it has been shown that an early irritating effect of a dressing may contribute to postoperative pain and swelling, regardless of whether or not it contains eugenol. Peripac, a non eugenol dressing, was shown to be more irritating than Wondrpak, due to dimensional changes which caused tissue irritation. This is important where large areas of connective tissue are left exposed and where use of a dressing may be mandatory.

However, materials such as Telfa or other may be interposed between dressing and tissues to prevent such harmful effects. The main disadvantage of eugenol dressings is that they set hard, often with sharp edges, and leave a bad taste in the patient's mouth. This may account, in large part, for their decreased popularity.

2. Effect on cell culture:

Kreth et al.(1966) tested four periodontal dressings on HeLa cell cultures, and found two eugenol dressings (PPC" and Wondrpak) slightly inhibitory to cell growth.

Hildebrand and DeRenzis tested the effect of two eugenol dressings (PPC-eugenol,Wondrpak) and two noneugenol dressings (Coe-Pak, PPC-noneugenol) on fibroblasts. After an 8-hour test culture, Wondrpak exhibited the greatest cell toxicity and PPC-eugenol the least. However, after 24 hours, the most toxic material was Coe-Pak and the least was PPC-noneugenol.

Rivera-Hidalgo et al.(1977)exposed seria ldilutions of PPC-eugenol or Coe-Pak to a population of human polymorphonuclear leukocytes. A high concentration of dressing extract was found to be cytotoxic, and Coe-Pak was more cytotoxic than PPC-eugenol. It was pointed out that clinically, many of the cytotoxic elements would be diluted by saliva.

Haugen and Hensten- Pettersen tested the cytotoxic effects of freshly prepared and stored samples of Coe-Pak, Peripac and Wondrpak on cultured epithelial cells. All three materials were found to have a very high degree of cytotoxicity. It was concluded that cell culture experiments are of limited use in evaluating dressings, as cytotoxic components are diluted in the mouth by saliva, blood, tissue fluid and cellular defense components.

However cell cultures are of limited use in evaluating dressing as cytotoxic components are diluted in saliva,blood, tissue fliud and cellular defense components

SENSITIZATION AND ALLERGY TO DRESSINGS:

Fraleigh noted allergic reactions to the presence of terramycin in a dressing. Koch et al was able to produce allergic reactions to eugenol and rosin in both guinea pigs and humans. **Poulsom** reported an anaphylactic reaction after application of Coe-Pak, 1 week after removal of the eugenol containing dressing. It was fell to be due to the presence of tannin in the dressing.

Lysell reported a case of contact allergy to rosin in a periodontal dressing after the patient's third surgery. The reaction included urticaria on the abdomen, swelling of the dorsum of both hands and involvement of the interphalangeal joints.

Haugen and Hensten- Pettersen demonstrated that Coe-Pak, Peripac and Wondrpak were all capable of producing sensitization in guinea pigs. Wondrpak exhibited the strongest effect, Peripac the weakest, but the exact components responsible for the reactions were not identified. It was suggested that the sensitizing potential of a dressing was related to the leaching of their components.

THE NEED FOR PERIODONTAL DRESSING:

- There has been great deal of debate regarding the value and usefulness of periodontal dressings for the routine use following periodontal therapy.
- **Löe and Silness** (1961) noted that in the absence of a dressing complete healing still took place and concluded that a dressing has little influence on healing provided that the surgical area is kept clean.
- **Stahl et al.** (1969) compared the healing sequence of dressed and undressed gingivectomies in 152 human subjects. Biopsies of the surgical sites were taken at regular intervals for up to 8 weeks. Histological examinations of the wounds were done to look for newly formed crevicular epithelium and connective tissue. They found no significant differences in the healing of either side and concluded that the presence of inflammation at the wound site had more to do with the rate of healing than whether or not a dressing is placed. They speculated that repair might be improved if a dressing is not used since it accumulates plaque and irritates the healing tissues.
- **Wampole et al.** found a 24% incidence of transient bacteremia in patients during postoperative dressing change. This finding was felt to be of significance in medically compromised cases, especially those with a history of rheumatic heart disease or bacterial endocarditis.
- **Greensmith and Wade** (1974) in a split mouth approach compared the effects of not using a dressing versus using Coe-Pak on crevicular fluid flow, the Gingival Index, and pocket depth, following reverse bevel flap procedures. They reported no clinically significant difference between any of these parameters and found that the use of a dressing caused more pain and swelling but less sensitivity and eating difficulty than when no dressing was used. While healing appeared slightly more rapid in the dressed

segments, patients generally expressed a preference for no dressing. It was concluded that application of a dressing is a matter of individual preference.

- **Heaney and Appleton (1976)** tested the effect of periodontal dressings when placed in periodontally healthy mouths, using either Coe-Pak or Wondrpak. They found that while the dressings caused little damage to the periodontium, they were associated with more inflammation than undressed areas. It was concluded that dressings should be removed within 1 week of surgery to prevent alterations in the healing pattern due to bacterial growth.
- **Jones and Cassingham (1979)** tested the postoperative differences between using no dressing and using Coe-Pak in seven patients who had periodontal surgery. Crevicular fluid flow, Gingival Index, histological inflammation and pocket depths were compared. No significant differences between the two modes of therapy were found. Patients reported more pain and discomfort when the dressing was used, and generally expressed a preference for no dressing. Although the sample size was too small to reach definitive conclusions, there was the strong clinical impression that routine use of periodontal dressings serves no useful purpose.
- Other disadvantages attributed to dressings were the possibility of displacing the flap, entrapping sutures beneath the dressing and forcing dressing material under the flap during placement.
- **Newman and Addy(1982)** compared a dressing plus a saline mouthrinse to 0.2% Chlorhexidine rinse following inverse bevel flap procedures in nine patients. Less plaque accumulation, sulcular bleeding and postoperative discomfort were found in patients who used the Chlorhexidine rinse. It was suggested that the use of a dressing postoperatively is undesirable, as it promotes bacterial contamination of the surgical site, and increases postoperative surgical inflammation. Chlorhexidine, by contrast, reduced postoperative plaque accumulation and surgical inflammation.
- This is supported by the findings of **Westfelt et al.** who demonstrated that Chlorhexidine rinse is roughly equivalent to professional plaque control in postsurgical healing and was judged to be a viable alternative regime for plaque control.
- **Allen and Caffesse** examined the clinical effects of a non- eugenol dressing (Perio Putty) on periodontal healing following modified Widman flap procedures in thirteen patients. No significant differences were found between dressed and undressed sites

with regard to clinical attachment levels, pocket depth, gingival inflammation and postoperative discomfort

Thus, based on the above studies the major concerns associated with the use of periodontal dressing are:

- Presence of dressing promotes accumulation of plaque in and around the wound site.
- The dressing itself may act as a plaque retentive surface
- The presence of dressing prevents patients from adequately removing plaque and debris from the area.
- The dressing may antibacterial rinses from reaching the healing area.

CONCLUSION:

The use of periodontal dressings has been a routine practice following periodontal surgical procedures. The studies evaluating the need for periodontal dressings have shown variable results in terms of post surgical healing and discomfort, with majority of them showing similar results with or w/o dressings.

The choice of placement of dressing may be a matter of preference related to discretion and judgement of the operator.

REFERENCES:

- Carranza, Newman. Clinical Peridontolgy.10th Edition
- Lindhe, Karring, Lang. Clinical Periodontology And Implant Dentistry.5th Edition
- Sachs HA, Farnoush A, Cheechi L, Joseph C E. Current Status Of Periodontal Dressings. J Periodontol 1984;55:689-696
- Eber RM Et Al. Effect Of Periodontal Dressings On Human Gingival Fibroblasts In Vitro. J Peridontol 1989;60:429-434
- Allen DR, CaffesseRG. Comparision Of Results Following Modified Widman Flap Surgery With Or Without Periodontal Dressings. J Periodontal 1983;53:470-475
- AddyM, Dolly AE. The use of chlorhexidine mouthwash compared with periodontal dressing following gingivectomy procedure.JClinPeridontol 1976;3:59-65
- Stahl SS et sl Gingival healing III. The effect of periodontal dressings on gingivectomy repair. J Periodontol 1969;40:30.

- K. David,Shetty Neetha J.& Pralhad Swati. Periodontal Dressings: An Informed View .Journal of pharmaceutical and biomedical sciences (J Pharm Biomed Sci.) 2013, January; 26(26); 269-272.
- Muthukumarasami, Nazargi Mahabob. Periodontal Pack. JIDENT 2012;1(1):24-32.
- Rahul Kathariya, Hansa Jain, Tanya Jadhav. To pack or not to pack: the current status of periodontal dressings. J Appl Biomater Funct Mater 2015;13(2):e73-86.