Shaving Bumps [Pseudofolliculitis barbae]:
A discussion on the Demographics, Causes, Biochemistry & Resolution Opportunities

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By
Aloysius Anaebonam, PhD
BREEJ Technologies, Lowell, MA
Shaving Bumps and Entrapped Hairs
[ingrown hairs]

Demographics [especially African American Men & Caucasian Women]

Causes & Biochemistry

Resolution Opportunities

Current Trends
ABOUT SHAVING BUMPS

[Razor Bumps]
Shaving Bump is the Most Important Skin Care Issue For Men of African Ancestry Worldwide. Over 10 million African Americans in the US And Over 300 million men of African Ancestry worldwide are plagued by Shaving Bumps
Shaving Bump is also a major issue for women who shave the bikini area, legs, underarms and face.
VARIOUS MANIFESTATIONS OF SHAVING BUMPS
Facial Bumps
https://femininetouchblog.wordpress.com/2013/06/21/underarm-problems-and-solutions/
SHAVING BUMPS FORMATION AND BIOCHEMISTRY
SHAVING BUMPS FORMATION AND BIOCHEMISTRY

- Trauma from Shaving leading to inflammation of shaved area
- Induction of melanogenesis by stimulated keratinocytes – has more impact in people of color with higher levels of melanin
- Damaging effects of UV Light
- Additional inflammation from bacterial and/or fungal infection
SHAVING BUMP FORMATION

Old Versus New Hypothesis
Old Hypothesis

Shaving Bumps occur when curly hairs cut at an angle grow back into the skin.

Affects mainly African American and people of color with curly hair.
Shaving Bumps Formation

The New Hypothesis

Key Factors:

- **Inflammation**
  - resulting from Inflammatory Mediators Generated by the Trauma to the Skin during Shaving

- **Infection**
  - area with bumps susceptible to Bacterial and Fungal Infections

- **Damaged Skin**
  - resulting from Imbalance in the ECM caused by the Shaving Induced Inflammatory Mediators

- **Darkened Skin**
  - resulting from Melanogenesis Induced by Irritation of Keratinocytes during shaving [post inflammatory hyper-pigmentation]

  Induction of Melanogenesis also leads to the production of additional inflammatory mediator exacerbating the condition [this is the main reason why men of color with higher level of melanin have a higher incidence/severity of shaving bumps]
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  [post inflammatory hyper-pigmentation]
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It is practically impossible [based on the structure of the Stratum Corneum] for the hair outside the skin [or hair cut at an angle] to curl and grow back into the skin contrary to what is claimed and published by many.
ENTRAPPED HAIR SCHEMATIC

http://www.healthline.com/health/treating-preventing-ingrown-vaginal-hair#Overview1
SHAVING BUMPS; BUMPS-ENTRAPPED HAIRS [INGROWN HAIRS]

http://i.imgur.com/wotDoh9.jpg

SCHEMATIC OF THE BIOCHEMISTRY OF SHAVING BUMPS FORMATION

all skin types - black, white etc

Trauma Caused By Shaving

**KERATINOCYTES IN THE EPIDERMIS**

- PLA2
- PHOSPHOLIPID
- Phospholipase A2 causes release of arachidonic acid from cell membrane phospholipids

**inflammatory arachidonic acid is formed**

- Cyclooxygenase enzyme-2 (COX-2) enzyme acts on arachidonic acid resulting in formation of Eicosanoids:
  - Inflammatory Leukotrienes B4 [LTB4]
  - leukotriene C4, leukotrienes D4 and E4
  - Leukotrienes increase vascular permeability, inflammation (pain) itching

UV RADIATION

**UV-A AND UV-B**

- Free Radicals Cause Lipoxidation resulting in formation of lipo peroxides.
- UV radiation also induces Melanogenesis and the release of large amounts of cytokines such as IL-1, IL-6 and TNF-14
- Collagen and Elastin Destruction by Collagenase and Elastase Enzymes

**black skin**

- production of additional inflammatory mediators by higher melanocytes activity

**melanogenesis**

- Irritated Keratinocytes induce melanogenesis (production of melanin)

**Inflammatory cytokines**

- TNF-α, IL-1β, PGE2, IL-6, IL-6R
- IL-8, IL-10, TNF-β and TNFR

**Inflammatory Reactive Oxygen Species (ROS)**

End Result - Severe Shaving Bumps
Primary Factors Responsible for Shaving Bumps…

- Trauma from Shaving leading to inflammation of shaved area
- Induction of melanogenesis by stimulated keratinocytes – has more impact in people of color with higher levels of melanin [additional inflammation from generated free radicals and inflammatory mediators]

SECONDARY FACTORS

- Entrapped Hairs – hairs growing normally grow into existing bumps – worsens the condition due to “foreign body reaction” – this entrapped hair has been characterized as “ingrown hair”. Our key points here are that - the existing BUMPS entraps the hairs - the entrapped hairs are NOT the primary cause of the Shaving Bumps
- Damaging effects of UV Light – Erythema and induction of melanogenesis leading to the generation of damaging free radicals
- Inflammation from bacterial and /or fungal infection
BIOCHEMISTRY OF SHAVING BUMPS

Blacks get more severe bumps due to higher content of MELANIN [the skin pigment] Melanogenesis is induced by irritated Keratinocytes to produce more melanin by Melanocytes.

Melanocytes have been shown to produce additional inflammatory mediators - Inflammatory cytokines [IL_1a, IL-18] and Inflammatory Reactive Oxygen Species [ROS].

These additional inflammatory mediators can cause complications during wound healing as well as the development of hyper pigmentation, uneven pigmentation, development of large scars and/or keloids

Curly hair/coarse hair [manifested in all ethnic/racial groups] do not play any role in shaving bumps formation

End Results - Severe Bumps and Damaged/darkened skin
NORMAL SKIN

- IN NORMAL SKIN THERE IS BALANCE IN EXTRA CELLULAR MATRIX [ECM]
- Keratinocytes release cytokines - interleukine 1 alpha [IL-1a]. Cytokines regulate metabolic activity of Fibroblasts
- Exposure to UV light also induces production of IL-1a in fibroblasts
- [IL-1a] and Tissue Necrosis Factor [TNF-b] stimulate release of Matrix Metalloproteinases [MMP] that degrades collagen, elastin and Glycoaminoglycans [GAGs]
- Tissue Growth Factor-beta [TGF-b] and Tissue Inhibitor of Metalloproteinases [TIMP] inhibit activity of MMP
- In normal skin, keratinocytes release IL-1a and TGF-b in a manner that balances synthesis and degradation of ECM components.
SUMMARY BIOCHEMICAL REACTIONS INVOLVED IN SHAVING BUMPS FORMATION

- Shaving causes trauma to skin stimulating release of Arachidonic acid (AA)
- AA is metabolized via cyclooxygenase and lipooxygenase pathways leading to formation of inflammatory mediators PGE2 and Leukotrienes
- PGE2 & Leukotrienes cause pain, itching, edema/swelling manifested as Shaving Bumps
- If untreated Shaving Bumps can get infected
- Trauma to Skin from shaving induces release of cytokines by keratinocytes
- Cytokines increase MMP levels; MMP causes degradation of collagen, elastin and GAGs resulting in damaged skin
- UV RADIATION induces production of IL-1α in fibroblasts leading to increase in MMP
- UV RADIATION induces melanogenesis and release of damaging FREE Radicals
- Over production of fibroblasts during wound healing may result in Keloids in Keloid-prone individuals
KERATINOCYTES IN EPIDERMIS

INDUCTION OF MELANOGENESIS

METABOLISIM OF ARACHIDONIC ACID BY CYCLOOXYGENASE AND LIPOOXYGENASE ENZYMES

PGE2

IL-1α & IL-8

IMBALANCE IN EXTRACELLULAR MATRIX [ECM]

SHAVING BUMPS; DAMAGED/DARKENED SKIN

COLLAGEN AND ELASTIN DESTRUCTION BY COLLAGENASE AND ELASTASE ENZYMES

TRAUMA FROM SHAVING

UV RADIATION FREE RADICALS CAUSE LIPOXIDATION With formation of lipo peroxides
A KEY STEP PRIOR TO RESUMPTION OF SHAVING
A KEY STEP PRIOR TO RESUMPTION OF SHAVING

SHAVERS WITH EXISTING BUMPS [INGROWN HAIR]
SHOULD NOT SHAVE
AS SHAVING OVER EXISTING BUMPS WILL MAKE THE CONDITION WORSE
GETS RID OF THE EXISTING BUMPS USING AN EFFECTIVE ANTI INFLAMMATORY AND ANTI BACTERIAL/ANTI FUNGAL PRODUCT

WHEN ALL EXISTING BUMPS GONE, RESUME SHAVING USING A MULIT-BLADE RAZOR [AS THEY CAUSE MINIMAL IRRITATION]

Note: Shaving Requires Bump Free Intact Skin
FOCUS ON THIS SUB GROUP DUE TO THEIR HIGHER INCIDENCE OF SHAVING BUMPS AND INGROWN HAIRS
Shaving Bump is the Most Important Skin Care Issue For Men of African Ancestry Worldwide. Over 10 million African Americans in the US And Over 300 million men of African Ancestry worldwide are plagued by Shaving Bumps
CLIPPERS/TRIMMERS
ABOUT 70%
[POOR RESULTS FOR THE FACE]

DEPILATORIES
ABOUT 10%
[MESSY MAL ODOR]

RAZOR SHAVING
SINGLE, TWIN AND MULTI-BLADE RAZORS
ABOUT 10%

GROW A BEARD
DUE TO SHAVING BUMPS/OTHER
ABOUT 5%

SHAVED AT BARBER SHOP
ABOUT 5%
AFRICAN AMERICAN MEN AND RAZOR SHAVING

THE MYTHS:

• African American Men Cannot Shave with a Razor
  [razor shaving causes shaving bumps]
• Shaving Bumps Are Caused by Ingrown Hairs – resulting from razor shaving – “hairs are cut at an angle, curls and re-enters the skin”

THE FACTS:

• African American Men Can Shave with a Razor — however it must be with the right razor – a multi-blade razor on BUMP-FREE Skin!

• Shaving Bumps Are Caused by the Trauma From Shaving and affects shavers of all ethnic groups – people of color suffer more from shaving bumps due to the additional factor of induction of melanogenesis triggered by irritated keratinocytes.
• Proper shaving [with a multi-blade razor] causes minimal irritation to the shaved skin

THE SOLUTION
RESOLUTION OF EXISTING BUMPS [& DAMAGED DARKENED SKIN]

Anti-inflammatory, Anti bacterial, Anti Fungal Products

CLEANSING AND LUBRICATION

Mild Cleanser with Anti-inflammatory agents [raises the inflammatory threshold], Lubricating Agents

SHAVING

Multi-Blade Razors [cause minimal irritation]

POST SHAVE

Anti-inflammatory, Anti bacterial, Anti Fungal Products –Soothes, prevents development of shaving bumps
THE SOLUTION

STEP 1: TREAT
Resolve Existing Bumps

STEP 2: CLEANSE/LUBRICATE
Anti Bump Face Wash/Shave Gel

STEP 3: SHAVE
Shave with Minimal Irritation

STEP 4: AFTERSHAVE
Soothe, Condition Prevent New Bumps

BUMP ZAPPER KIT SYSTEM

For resolution of existing bumps
BUMP TERMINATOR ES SEVERE BUMPS LOTION FOR RESOLUTION OF BACK OF HEAD BUMPS AND RECOMMENDED MULTI-BLADE RAZORS
NEW TRENDS AND OPPORTUNITIES

ALL-IN-ONE FACE WASH AND SHAVE GEL

POST SHAVE LOTION FOR WOMEN

WOMEN SHAVING THEIR FACE [FOR BEAUTY]

NEW SHAVING CLUBS

UNILEVER JUST PURCHASED DOLLOR SHAVE CLUB FOR ABOUT ONE BILLION USD

P&G’S ART OF SHAVING TACKLES INGROWN HAIR WITH LAUNCH OF POWER BRUSH SYSTEM
**Anti Bump, All-in-one**

**FACE WASH & SHAVE GEL**

**REIMAGINED**

**ALL IN ONE MULTI-MODAL, MULTI-ACTIVE SHAVE GEL AND FACE WASH**

- Formulated to quickly soften and hydrate hair [no need for shaving soaps]
- Quick Break Foam with Mild cleansers fortified with Yucca saponins [brush-less shaving]
- Silky lubrication by quillaja saponeria and select polymeric agents [no need for shave oils]
- Formulated with anti-inflammatory agents raising the threshold for inflammation [minimal irritation]
- Post Shave Lotion can be skipped for shavers with normal skin [post shave lotion, optional]
- Suitable for all razors though multi-blade razors recommended [as they cause the least irritation]

**Bump Terminators.com**

BREEJ Technologies, Lowell, MA 01851
Tel.: 617 834 9566

WOMEN -LEG SHAVING

http://youqueen.com/beauty/
how-to-get-rid-of-razor-bumps-fast//

http://howtousevinevera.com/are-you-shaving-right-vine-vera-reviews/
WOMEN - POST SHAVE PRODUCTS

http://youqueen.com/beauty/
how-to-get-rid-of-razor-bumps-fast/

http://howtousevinevera.com/are-you-shaving-right-vine-vera-reviews/
WOMEN - PREVENTING BIKINI BUMPS

http://seblaine-rph.tumblr.com/post/147117759305/there-are-150-pictures-under-the-cut-of-women

Procter & Gamble-owned Art of Shaving has launched a new battery-powered brush designed to address ingrown hair and razor bumps, according to a report published by the Cincinnati Business Courier.

Source: Art of Shaving/P&G
Women Shaving their Face – FOR BEAUTY

"It also makes your skin smoother, allows any products you apply after to penetrate deeper, and promotes cellular turnover, which is one of the reasons men always look five or so years younger than their age, since they're constantly exfoliating through shaving and encouraging new cells to the surface of your skin," Neal Schultz, M.D., a cosmetic dermatologist in NYC,

Women Shaving their Face – FOR BEAUTY

Dermaplaning (the clinical term for using a straight-edge-like facial razor on skin to mechanically — not chemically — exfoliate it) has many beautiful benefits, as Monroe and Taylor knew: It removes deep layers of dead skin cells thoroughly (rather than moving them around on your face as you exfoliate, which can happen with scrubs); it's a fine exfoliation rather than gritty (think of it as wearing ice skates rather than golf shoes on an ice rink, says Mary Schook, licensed aesthetician and cosmetic chemist).

THE END