

Skin Directed Therapies

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Disclosure Statement

I have no significant financial interest or other relationship with the manufacturers of any of the products or providers of any of the services that will be discussed.

Objectives of Skin Directed Therapies

De-bulk the skin of malignant cells

Treat the itch

Decrease Inflammation

Types of Skin Directed Therapies

Topical Steroids

Topical Chemotherapeutic Drugs

Topical Retinoids

Local Immunomodulatory Drugs

Phototherapy

Total Skin Electron Beam Radiation & Local Radiation

Universal Downside of Skin Directed Therapies

Labor Intensive

Topical Steroids

Work by stopping inflammation and the proliferation of certain cells.

Topical Steroids

Advantages

- Multiple formulations: creams, gels, ointments, foams, liquids
- Multiple strengths
- Can be tailored to body site
- Soothing effect
- Cost

Topical Steroids

Disadvantages

- Prolonged use may lead to thinning of the skin (atrophy)
- Adrenal suppression with prolonged use on entire body surface
- Prolonged use in eye area may increase risk of glaucoma

Topical Chemotherapeutic Drugs

**Nitrogen Mustard
Carmustine (BiCNU)**

Topical Chemotherapeutic Drugs

Work by disrupting DNA of malignant cells → leads to cell death.

Topical Chemotherapeutic Drugs

Advantages

- Very effective for de-bulking malignant cells
- Can tailor strength and formulation to suit the situation

Topical Chemotherapeutic Drugs

Disadvantages

- Irritation
- Allergic reaction
- Discoloration, telangiectasias
- Disruption of personal life
- Pharmacies that can dispense are limited in number
- May increase risk of skin cancer

Topical Retinoids

Work by suppressing proliferation of, and promoting cell death of, abnormal cells.

Topical Retinoids

Tazarotene (Tazorac®)

Tretinoin (Retin A®)

Bexarotene gel (Targretin® gel)

Topical Retinoids

Advantages

- Useful for small body surface areas of involvement
- Tazarotene and Tretinoin especially useful for face
- A useful adjunct to other topical treatments

Topical Retinoids

Disadvantages

- Irritation, redness
- Cost

Local Immunomodulatory Drugs

Work by inducing an immune response in a localized area of skin.

Local Immunomodulatory Drugs

**Imiquimod (Aldara®)
Intralesional Interferon**

Local Immunomodulatory Drugs

Advantages

- Very useful for stubborn areas

Local Immunomodulatory Drugs

Disadvantages

- Irritation, Inflammation
- Practical only for small body surface areas
- Cost

Phototherapy

Ultraviolet Light therapy administered in a phototherapy booth. Works by de-bulking the cells from the skin.

Phototherapy

Named by specific wavelength of ultraviolet light used:

B	290 – 320 nanometers
Narrow Band B	311 nanometers
A	320 – 400 nanometers

Phototherapy

**Narrow or, Broad Band, Ultraviolet Light B
(NBUVB, UVB)**

**Psoralen + Ultraviolet Light A
(PUVA)**

Phototherapy

Advantages

- Very effective and useful for large body surface involvement or widespread involvement.
- Synergistic with other treatments (Retinoids, Interferon, etc.)

Phototherapy

Disadvantages

- Traveling 2-3 times per week to location offering the service.
- Psoralen – may cause nausea/protective eyewear required on treatment day.
- Increased risk of skin cancer
- Burning

Total Skin Electron Beam

Ionizing radiation that is administered to the entire skin surface.

Malignant cells are killed with low doses of radiation that minimizes damage to normal tissues.

Total Skin Electron Beam

Advantages

- Very effective in de-bulking skin of heavy burden of malignant cells that are recalcitrant to other forms of treatment.
- Superficial lymph nodes can also be treated.
- Circulating blood in the skin also receives treatment.

Total Skin Electron Beam

Disadvantages

- Travel to specialized center. Time consuming treatment.
- Fatigue
- Multiple side effects on the skin, hair, nails.

Localized Radiation Treatment

Utilized for spot treatment of localized disease –
e.g. tumors.

Can be electron beam treatment or other type of
radiation