

**In The Name of God**

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# Drug Induced Hyperpigmentation

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# *Pathogenesis*

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granules in dermal macrophages

Increased melanocytes

Increased melanin synthesis

pigment granules within the dermis

# *Hyperpigmentation Due To Topical Agents*

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## **Hydroquinone :**

Hyperpigmentation in areas of application due to irritant contact dermatitis (i.e. postinflammatory) or exogenous ochronosis; the latter may also result in small “caviar-like” papules

Face , sclera

# *Hyperpigmentation Due To Topical Agents*



Hyperpigmentation Due to Hydroquinone

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# *Hyperpigmentation Due To Topical Agents*

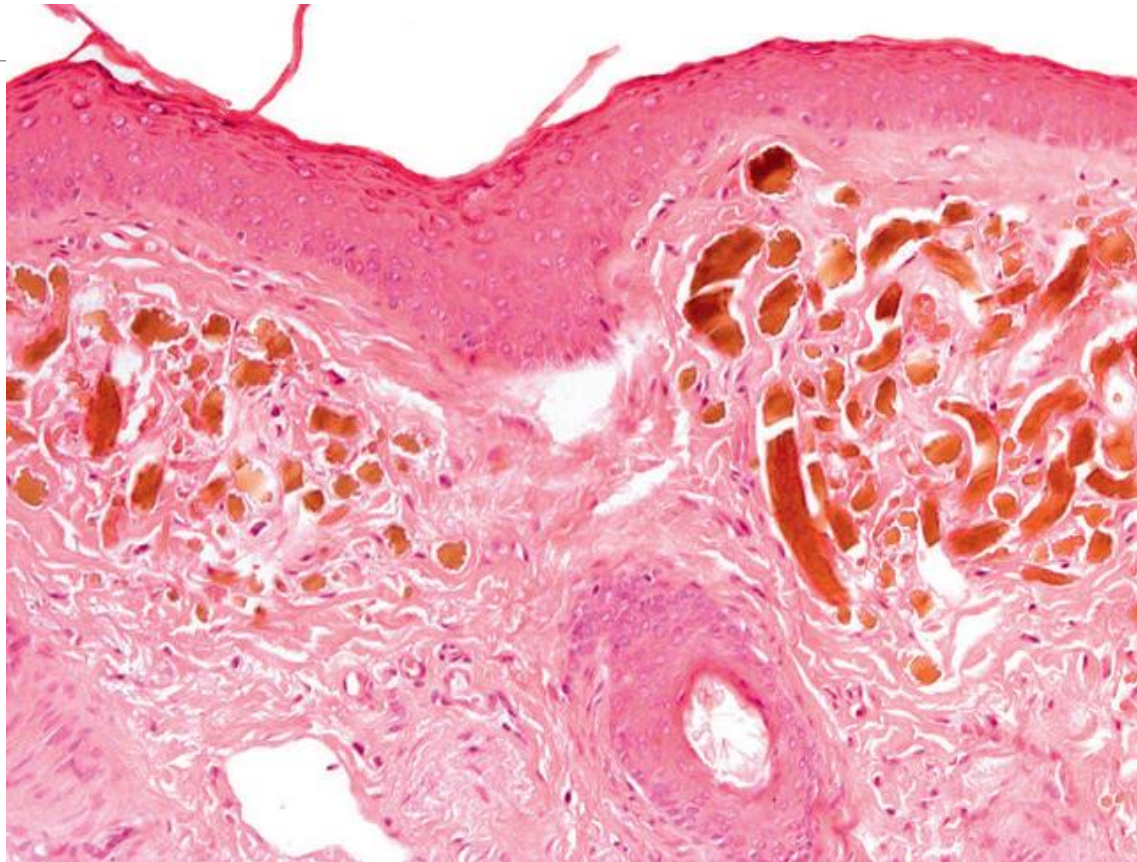
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Hyperpigmentation Due to Hydroquinone

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# *Hyperpigmentation Due To Topical Agents*



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# *Hyperpigmentation Due To Topical Agents*

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**Iron:** Monsel solution

**Tar melanosis**

Tar handlers , psoriasis



# *Metallic discoloration*

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## 1. **Argyria:**

- ❑ eye drops , silver sulfadiazine creams , silver earrings , jewelers
- ❑ Diffuse slate-gray discoloration, increased in sun-exposed areas

# *Metallic discoloration*

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argyria

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# *Metallic discoloration*



argyria

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# *Metallic discoloration*

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## 2. Gold:

- ❑ Parenteral administration of gold salts

Permanent blue–gray discoloration in sun-exposed areas, particularly around the eyes

## 3. Iron :

Permanent brown pigment at injection sites

# *Metallic discoloration*

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## 4. Bismuth :

Generalized blue–gray discoloration of the face, neck and dorsal hands

Oral mucosa and gingivae may be involved

# Hormones

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## ❖ Oral contraceptives

melasma: increased pigmentation of nipples and nevi

Increased melanocytes and increased melanin synthesis

## ❖ ACTH/MSH

Diffuse brown or bronze hyperpigmentation, accentuated in sun- exposed sites

Increased melanin synthesis

# Drugs

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## Amiodarone:

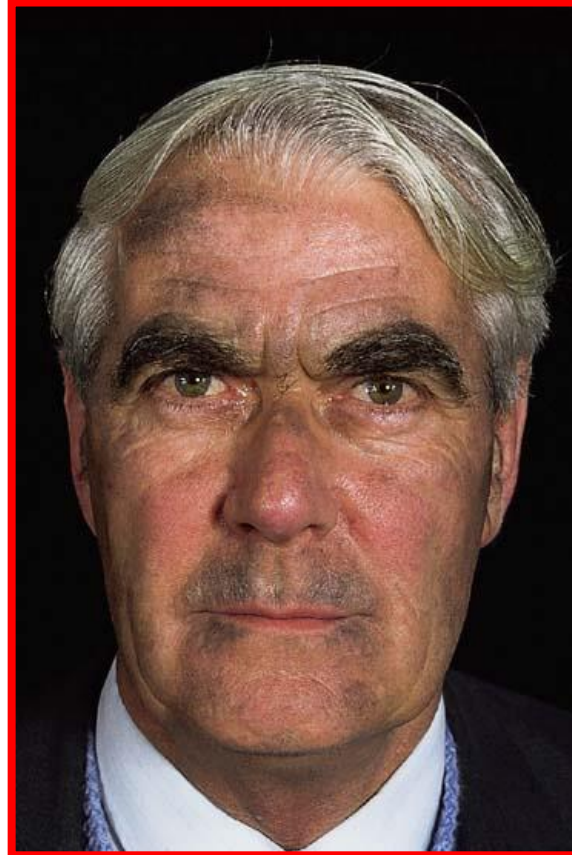
Slate-gray to violaceous discoloration of sun-exposed skin, especially the face

Fair-skinned patients after long-term intake

# Drugs

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Pigmentation due to amiodarone



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# Drugs

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## Clofazimine

Diffuse red to red–brown discoloration of skin, conjunctivae

Violet–brown to blue–gray discoloration, especially of lesional skin

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Pigmentation due to clofazimine



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# Drugs

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## Antimalarials

- Discoloration affects up to 25% of patients

Gray to blue–black pigment, usually pretibial, with (hydroxy)chloroquine; face

hard palate, sclerae, and subungual areas may be involved

# Drugs

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## Minocycline :

- Extremities , normal skin
- cicatrice , inflammed lesions
- Generalized
- Blue–black discoloration may also involve nails, sclerae, oral mucosa, bones, thyroid, and teeth



Minocycline induced hyperpigmentation

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# *Drugs*

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Minocycline induced hyperpigmentation

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# *Drugs*

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## **Psoralens**

Diffuse hyperpigmentation after exposure to UVA light following oral administration (PUVA)

# *Drugs*

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## **Dioxins**

Hyperpigmentation may occur in sun-exposed areas



# Drugs

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## Diltiazem (rarely amlodipine)

- Slate-gray to gray–brown discoloration of sun-exposed skin in patients with skin phototype IV  
perifollicular accentuation and a reticular pattern may be observed

# Drugs

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## Zidovudine

Mucocutaneous hyperpigmentation (e.g. widespread diffuse, acral, oral macules)

most common in patients with darkly pigmented skin, and may be accentuated in areas of friction or sun exposure

Longitudinal > transverse and diffuse melanonychia (up to 10% of patients); blue lunulae

# *Drugs*

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**Spionolactone**

Melasma-like pigmentation

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# *Drugs*

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## **Psychotropic drugs**

Slate-gray to brown (with amitriptyline) discoloration in sun-exposed areas

# *Chemotherapeutic Agents*

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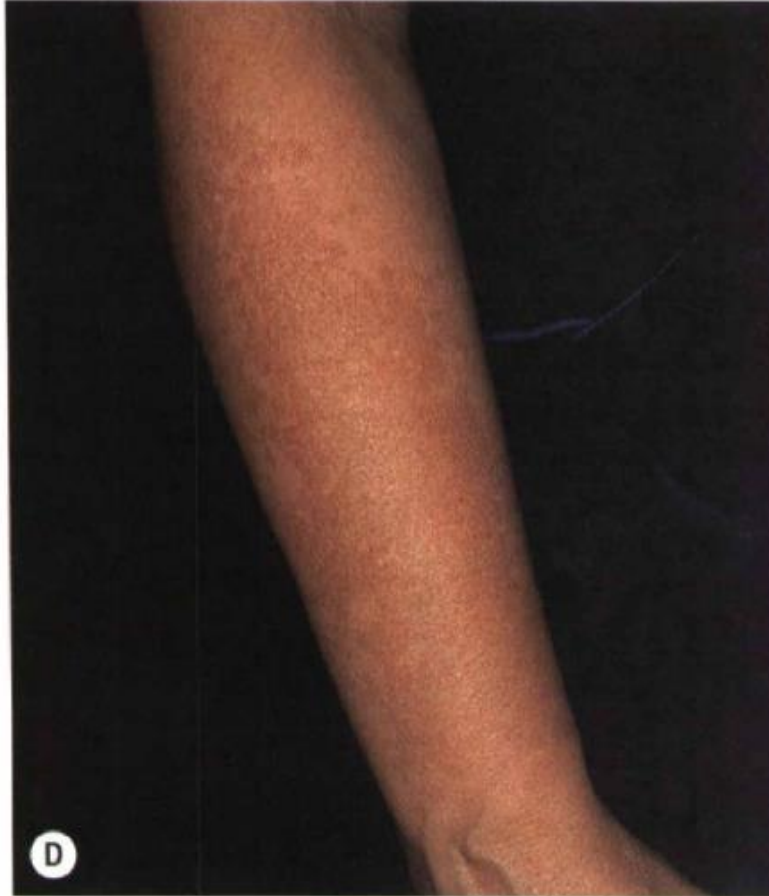
1. Alkylating chemotherapeutic agents ( busulfan , cyclophosphamide)
2. chemotherapeutic antibiotics : bleomycin , daunorubicin , doxorubicin

## 5-FU

- Diffuse hyperpigmentation
- hyperpigmentation in areas of trauma , nails , mucosa

# *Chemotherapeutic Agents*

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**Fig. 67.14 Flagellate pigmentation.** This young man had received bleomycin as a treatment for his lymphoma. Note the linear excoriations.

*Courtesy, David E Cohen, MD MPH.*

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# oral melanosis:

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- hydroxychloroquine
- OCP
- phenothiazines
- zidovudine
- bismuth
- Chemotherapeutic Agents



# *HYPERPIGMENTATION of the NAILS*

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**Antimalarials**

**Zidovudine**

**Chemotherapeutic Agents**

**psoralens**

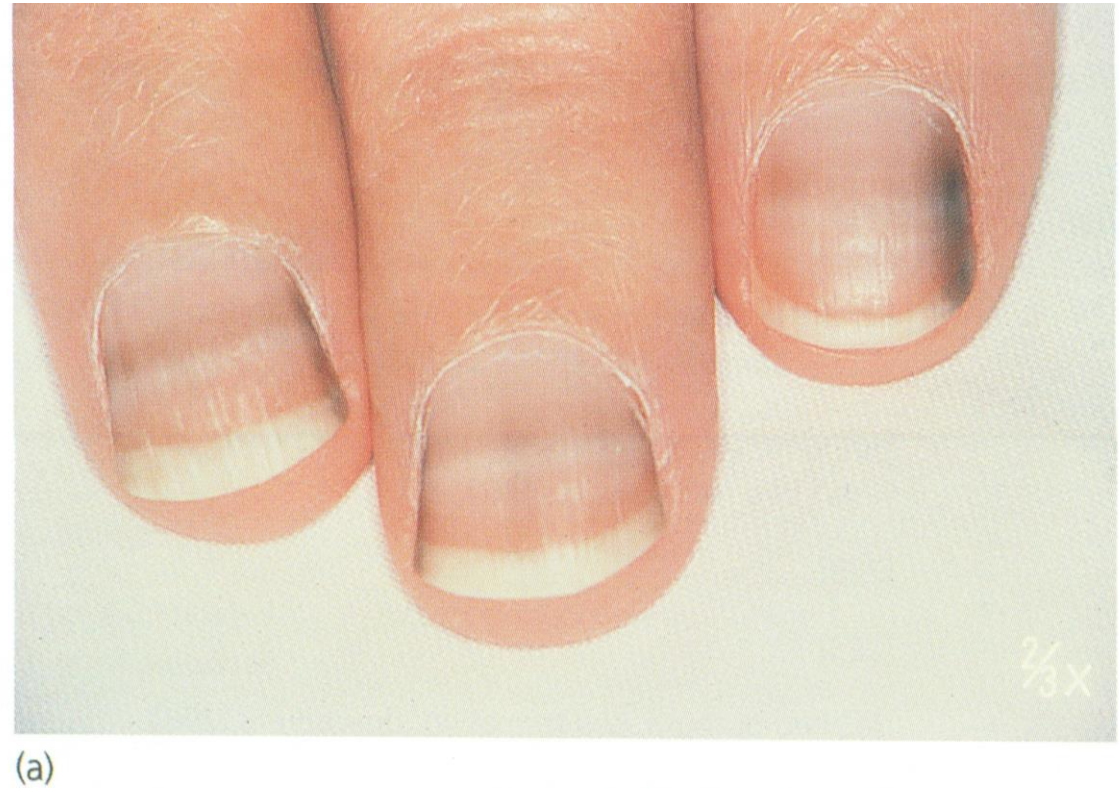
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## *HYPERPIGMENTATION of the NAILS Due to Chemotherapeutic Agents*

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- ✓ Doxorubicin (adriamycin)
- ✓ Cyclophosphamide
- ✓ 5-FU
- ✓ Busulfan
- ✓ Vincristin

## *HYPERPIGMENTATION of the NAILS Due to Chemotherapeutic Agents*



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# *Prognosis of Drug-induced Hyperpigmentation*

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Usually fades completely over months to years after discontinuation of drug, but sometimes persists.

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**Thank You !**

