PSYCHODERMATOLOGY: A NEW FRONTIER IN PSYCHOSOMATIC MEDICINE

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CONFLICTS OF INTEREST

• I have no financial or otherwise conflicts of interest associated with this presentation.
• The off label use of medications with non-FDA approved indications have been discussed somewhere.
OVERVIEW OF THE PRESENTATION

• What is Psychodermatology
• Role of Psycho-neuro-immunology
• Classification of psychodermatological disorders
• Brief description of common psychocutaneous disorders.
• Psychodermato-pharmacology
INTRODUCTION

• Psychodermatology focuses on the boundary between Psychiatry and Dermatology.

• The intimate relationship between skin and psyche/nervous tissue is related to the common embryonic origin: ECTODERM.

• Skin being readily available target for patient behavior.
EMOTIONAL PROBLEMS CARRIED OUT BY SKIN DISEASE

◊ A clear visibility of skin disease to others
◊ Carrying the blame of contagiousness
◊ Public ignorance and superstition

Shame, Guilt, Embarrassment, Poor self image and Low self esteem

http://www.medicad.com
COMMON PSYCHOSOCIAL ISSUES IN PSYCHODERMATOLOGY

• Interpersonal maladjustment and difficulty in getting along with others.
• Feelings of inferiority and low self esteem
• Social stigma and isolation
• Decreased sense of body image
• Sexual and relationship difficulties
• Generalized sense of reduced quality of life.
THE PSYCHOLOGICAL IMPACT

• Depends upon:
  • The natural history and implications of specific dermatologic disorder.
  • The patient’s demographic characteristics, personality trait, characters and values.
  • The patient’s life situation.
  • Attitudes of society about the meaning of skin disease.

NICE (Neuro-Immuno-Cutaneous-Endocrine) Model

Neuromediators, hormones, cytokines and various feedback loops.

Modulating the functions of epidermal, dermal and Immune cells of skin (Macrophages & Lymphocytes)

NICE model is destabilized during the course of inflammatory skin disorders.

Psychological stress → CNS-HPA Axis activation

CRH, ACTH, GC

CRH released → CRH-R receptor on mast cell activated

Skin mast cell activation

Suppresses TH1 immune response
Upregulates TH2 immune response
Skin serotonin level

Immune dysregulation
Neurogenic inflammation
Proinflammatory response
Vasodilatation

Inflammatory
Autoimmune
Allergic skin disorders

Substance P, CGRP Neuropeptide
STRESS, IMMUNITY AND INFLAMMATION
EPIGENETICS

• A newer concept in psychosomatic medicine.
• An interface between genome and the environment.
• A regulation in gene expression via molecular mechanisms, in response to environmental influences, drugs and chemicals.
• A great potential to understand the comorbidity in psychosomatic medicine.
CLASSIFICATION

1. Psycho-physiological disorders
2. Primary psychiatric disorders
3. Secondary psychiatric disorders
4. Miscellaneous syndromes
5. Dermatologic side effects of psychiatric drugs.
6. Psychiatric side effects of dermatologic drugs.
PSYCHO-PHYSILOGIC DIS.

• Skin disease *precipitated or exacerbated* by psychological stress.

• Patients experience a *close and chronological association* between stress and exacerbation.

• **EXAMPLES:**
  - Atopic Dermatitis
  - Psoriasis
  - Acne vulgaris
  - Alopecia areata
  - Seborrhoic dermatitis.
  - Aphthosis
  - Rosacea
  - Urticaria
  - Hyperhidrosis
  - Pruritus
  - HSV and Dyshidrosis etc.
PSORIASIS & PSYCHIATRY

• Disturbance in **body image** perception.
• Impairment in social and occupational functioning.
• Direct linkage b/w Psoriasis severity, **depressive** symptoms and suicidal ideation
• Exacerbation of Psoriasis with **Lithium**.
• Increased prevalence of **alcoholism** and **Smoking**.
• Feelings of physical and sexual unattractiveness, helplessness, anger and frustration.

RELATIONSHIP OF PSORIASIS & STRESS

• Major stress has been noted in **44%** of patients prior to initial flare of psoriasis.
  

• Recurrent flares attributed to stress have been reported in **80%** of patients.
  

• Early onset psoriasis (**<40y** is triggered more readily by stress than late onset.
  

• Patients who report high level of psychological stress suffer more severe skin and joint symptoms.
  
PSYCHO-NEURO-ENDOCRINOLOGY OF PSORIASIS

• Imbalance of neuropeptides VIP and substance P exists in psoriasis.


• An enhanced stress induced autonomic response and diminished pituitary-adrenal activity.


• Psoriatics show more pronounced increase in plasma glucose and urinary adrenaline excretion.

SUICIDE & PSORIASIS

• A survey questionnaire was given to 217 Psoriasis patients with associated depression:
  • 9.7% Reported a wish to be dead
  • 5.5% reported active suicidal ideation at the time of study.
• Death wish and suicidal ideation were associated with higher depression scores and higher patient self-rating of psoriasis severity.

ONLY IN USA
ATOPIC DERMATITIS

• In early infancy, the weeping and scaly skin of an atopic infant, may inhibit normal touching and bonding of mother and child.

• In later infancy, the irritable and uncomfortable child challenges mother’s care-giving skills, leading either to withdrawal or over-involvement, both having negative impact on child’s development.
PSYCHOSOCIAL IMPACT OF ATOPIC DERMATITS

• **Children & Adolescents:**
  • Psychosocial maladjustment.
  • Embarrassment and feeling of low self esteem.
  • Disrupting sporting activities in older children.

• **Parents:**
  • Feeling of guilt and helplessness
  • Exhaustion and frustration
  • Deranged Spousal and other familial relationships.

PSYCHO-NEURO-ENDOCRINOLOGY OF ATOPIC DERMATITIS

- Atopic children show blunted cortisol response.
- Hypo-responsive HPA axis.
- Dilatation of skin arterioles during stress contribute to increased pruritus during stress times.

PRIMARY PSYCHIATRIC DISORDERS

- There is no real skin condition and everything seen on skin is self-induced.
- Always associated with underlying psychopathology and are known as stereotypes of psychodermatological diseases.

Examples:
- Dermatitis artefacta
- Trichotillomania
- Body dysmorphic disorder
- Neurotic Excoriation
- Delusion of Parasitosis
- Eating disorders
- Onychotillomania
- Obsessive compulsive disorder
- Autistic disorder
DERMATITIS ARTEFACTA

• Self inflicted cutaneous lesions, with unconscious motive.

• Bilateral or symmetrical within easy approach of dominant hand.

• Bizarre with sharp geometrical or angular borders.

• Burn scars, purpura, blisters, ulcers, erythema, edema
DERMATITIS ARTEFACTA
DERMATITIS ARTEFACTA
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DERMATITIS ARTEFACTA
PSYCHIATRIC ASPECTS OF DA

• Associated with severe personality disorder (borderline) with poor coping mechanisms, wherein the skin lesions serve as a appeal for help.

• Major psychosocial stressors like illness, accident and bereavement precede the onset.

• The underlying psychopathology ranges from OCD, Depression, Psychosis to Mental retardation.

# Differential Diagnosis of DA

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Production</th>
<th>Motive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatitis Artefacta</td>
<td>Conscious</td>
<td>Unconscious</td>
</tr>
<tr>
<td>Malingering</td>
<td>Conscious</td>
<td>Conscious</td>
</tr>
<tr>
<td>Conversion</td>
<td>Unconscious</td>
<td>Unconscious</td>
</tr>
</tbody>
</table>
EKBOM’S DISEASE
DELUSSION OF PARASITOSIS

• Wilson & Miller in 1946
• Primary and Secondary types
• Annual Incidence of 20 cases/million
• F/M ratio 2:1
• Bimodal distribution:
  • Peak incidence between 20 and 30 years
  • More than 50 years
DELUSION OF PARASITOSIS  
(EKBOM’S DISEASE)

• Most common Cutaneous MSHP.
• The patients firmly believe that their bodies are infested by some type of organisms.
• They often present with small bits of excoriated skin, debris, unrelated insects or insect parts.
• **Associations:**
  • Schizophrenia, Psychotic depression, Drug induced psychosis, Cocaine, Amphetamine or Alcohol withdrawal etc
DELUSION OF PARASITOSIS
MANAGEMENT GUIDELINES

• Ensure that the diagnosis is correct
• Listen empathetically
• Ask how the condition has affected the patient’s quality of life
• Establish the trust of patient
• Consider referral to a psychiatrist
• Consider to use the medication to ease the patient’s anxiety or psychosis
OBSESSIVE COMPULSIVE DISORDER & DERMATOLOGY

- They present to Dermatologist because of skin lesions resulting from scratching, picking and other self injurious behaviors.
- **Presentations** may include:
  - Excessive hand washing with detergents and resultant eczema.
  - Compulsive pulling of hair, eye brows and eye lashes.
  - Biting of lips, tongue and cheeks.
  - Picking at skin, nail folds and scabs.
HABITUAL HAND WASHER
LIP LICKING DERMATITIS
TRICHTILLOMANIA

- **Dermatologically**
  - A condition in which person pulls out his or her own hair.
- **DSM-V**
  - Recurrent failure to resist impulses to pull out one’s own hair resulting in noticeable hair loss.
TRICHOTILLOMANIA
FAMILIAL TRICHIOTILLOMANIA
TRICHOTILLOMANIA
OTHER SELF-INFLICTED HAIR LOSS CONDITIONS

- Trichoteiromania
- Trichotemnomania
- Trichodaganomania
TREATMENT

• Cognitive Behavioral Therapy
• Habit Reversal Therapy
  • Awareness Training
  • Competing response
  • Substitution techniques
• Role of Medications
• New Research
DERMATOLOGIC DRUGS & DEPRESSION

- Isotretinoin
- Dapsone
- Acyclovir
- Metronidazole
- Corticosteroids
- Sulphonamides
- Interferon
SKIN PICKING

• Self inflicted lesions on different parts.
• Typically presents as weeping, crusted or lichenified lesion with post inflammatory hypo or hyper pigmentation.
• Sites:
  • Usually hand-approachable and include extensor aspects of extremities, scrotum, perianal region etc.
SKIN PICKING % AT DIFFERENT BODY SITES

SKIN PICKING
SKIN PICKING
SKIN PICKING
SKIN PICKING
# Treatment of Pathological Skin Picking

<table>
<thead>
<tr>
<th>Treatment (Study)</th>
<th>Duration</th>
<th>Sample Size</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine (Simeon et al. 1997)</td>
<td>10 weeks</td>
<td>21 enrolled, 17 completed</td>
<td>Significant improvement than placebo</td>
</tr>
<tr>
<td>Fluvoxamine (Arnold et al. 1999)</td>
<td>12 weeks</td>
<td>14 enrolled, 7 completed</td>
<td>Significant reduction in Y-BOCS scores in 50% patients</td>
</tr>
<tr>
<td>Fluoxetine (Bloch et al. 2001)</td>
<td>6 weeks open label followed by 6 weeks double blind discontinuation for responders</td>
<td>15/15 in open label phase &amp; 8/8 in double blind phase</td>
<td>70% reduction in baseline Y-BOCS scores</td>
</tr>
<tr>
<td>Lamotrigine (Grant et al. 2007)</td>
<td>12 weeks</td>
<td>24 enrolled, 20 completed</td>
<td>Significant reduction in CGI and Y-BOCS scores</td>
</tr>
<tr>
<td>Escitalopram (Keuthen et al. 2007)</td>
<td>18 weeks</td>
<td>29 enrolled, 19 completed</td>
<td>Significant reduction in picking severity.</td>
</tr>
</tbody>
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SKIN CUTTING/SLASHING

- Females more than males
- Extremities particularly wrists and forearms are common sites.
- A perceived sense of getting relief from stress.
- Associated Psychopathology:
  - Borderline personality dis.
  - Depression
  - Patients with suicidal intents
  - Substance abuse.
  - Mental retardation
SKIN CUTTING
SKIN CUTTING
SKIN CUTTING
PSYCHOGENIC PRURITUS

• Pruritus contribute to stress and stress contribute to pruritus.
• Activation of itch inducing *neurochemical pathways* (Enkephalins & Endorphins).
• Variation in skin temperature, blood flow and sweating.
• Psychiatric Associations:
  • Depression, Anxiety, Aggressive behavior, Obsessional behavior and Alcoholism.
DIAGNOSTIC CRITERIA (FRENCH PSYCHODERMATOLOGY GROUP)

• **Compulsory Criteria:**
  • Localized or generalized pruritus *sine materia* (without primary skin lesion)
  • Chronic pruritus (> 6 weeks)
  • No somatic cause

• **Optional criteria (3/7 required):**
  • A chronological relationship of the occurrence of pruritus with one or several life events that could have psychological repercussions
  • Variations in intensity associated with stress
  • Nocturnal variations
  • Predominance during rest or inaction
  • Associated psychological disorder
  • Pruritus that could be improved by psychotropic drugs
  • Pruritus that could be improved by psychotherapies.
SECONDARY PSYCHIATRIC DIS.

• Emotional problems as a result of having skin disease.
• Psychosocial consequences are more severe than the physical symptoms.
• Not life threatening, but often called *life ruining*, because of their visibility.
• Examples:
  • Acne Excori'ee, Vitiligo, Alopecia areata, generalized Psoriasis, Ichthyosis and others.
You're not going to believe this, but my... 

Psychodermatologist said stress may be causing my breakouts!

He recommended I try self-hypnosis, which took months to learn!

But I was able to visualize my immune system fighting off my pimples!

Yes, I know it's a little bizarre and amazing, but... no more acne!
ALOPECIA AREATA
PSYCHOLOGICAL IMPACT

• The influence of psychological factors in the development, evolution and therapeutic management.

• Life events and situational stress, play an important role in triggering the disease.

• Co-morbidity:
  • Depression, Anxiety disorder, Phobic states and Adjustment disorders.

• Highest comorbidity was noticed in obsessive, anxious and dependent personality traits.

PSYCHO-NEURO-ENDOCRINOLOGY OF AA

• Stress elicits the release of **Substance P (SP)** from peripheral nerves.
• Prominent SP expression in nerves surrounding hair follicle has been noticed.
• Substance P degrading enzyme **neural endopeptidase** have also been strongly expressed in affected hair follicle.

VITILIGO AND PSYCHIATRY

• The interplay of vitiligo and psychiatry:
  • Psychiatric issues exacerbate and affect the natural course of vitiligo.
  • Vitiligo in turn has psychological consequences for many patients.
  • Loss of self esteem and social stigma may progress to self-isolation and suicide in some patients.
CUTANEOUS SENSORY SYNDROME

• Abnormal skin sensations such as itching, burning, stinging, biting or crawling, that can not be attributed to a dermatologic or medical condition
  • Vulvodynia, Glossodynia
• Dermatologic equivalent of chronic pain syndrome.
• Usually associated with Anxiety disorder or Depression.
• Careful psychological assessment and ruling out medical issues are important in the management of these disorders.
WHAT ABOUT PSYCHOPHARMACOLOGY & DERMATOLOGY?
PSYCHOTROPIC DRUGS IN DERMATOLOGY

• Four major clinical situations:
  • Management of dermatological symptoms associated with psychiatric disorders.
  • Management of psychiatric symptoms associated with skin disease.
  • Management of cutaneous side effects of Psychotrophic drugs.
  • Management of conditions where other pharmacologic effects of psychotrophic drugs are desired.
Psychodermatological disorders

The choice of psychotropic medication is based on the nature of underlying psychopathology involved.

Psychopathology

Anxiety
Depression
Delusional disorder
Obsessive Compulsive disorder
DERMATOLOGIC DRUGS & PSYCHIATRY

• STEROIDS
  • Cognitive impairment
  • Mood disorder
  • Depressive disorder
  • Delirium
  • Psychosis

• ISOTRETINOIN
  • Depression
  • Suicidal ideation & attempts
  • Mood swings
  • Manic psychosis
  • *No Depression*
SYMPTOM CONSTELLATION WITH STEROID TREATMENT

- Emotional lability
- Anxiety
- Distractibility
- Pressured Speech
- Sensory flooding
- Insomnia
- Depression
- Perplexity
- Agitation
- Hallucinations
- Delusions
- Memory impairment
- Mutism
- Disturbance of body image
- Apathy & Hypomania
ISOTRETINOIN & DEPRESSION

• Since its FDA approval in 1982, numerous reports of depression, suicidal ideation and suicidal attempts have been reported to FDA’s ADRSDB.

• Isotretinoin ranked within the top 10, for number of reports of depression and suicide attempts.

• Warning concerning depression and suicide was added to the labeling of Isotretinoin in 1998.
ISOTRETINOIN AND MOOD CHANGES
A COHORT STUDY

• 132 patients aged 12-19 years with moderate to severe acne were treated with isotretinoin and conservative acne therapy over a period of 3-4 months.

• Setting: Hospital affiliated and community based clinics.

• Main outcome measure for assessing depressive symptoms was Center for epidemiological studies depression scale (CES-D).

• Authors concluded that use of isotretinoin did not increase symptoms of depression. On the contrary, treatment with either type was associated with a decrease in depressive symptoms.

• **135 patients** with acne in a Finnish Military hospital were prescribed Isotretinoin in an uncontrolled prospective **12 weeks** follow up study.

• **Main Outcome measure:** Beck depression inventory at baseline, week 4-6 and week 10-12.

• Authors **concluded** that Isotretinoin was *not* associated with depressive symptoms or suicidal ideations, however, physicians should be cautious about idiosyncratic mood effects.
COMPLEMENTARY THERAPIES IN PSYCHOCUTANEOUS DISORDERS

• Acupuncture
• Aromatherapy
• Biofeedback
• Hypnosis
• Herbal therapy
• CBT
• EMDR
CONCLUSION

• Psychodermatology is emerging as a new subspecialty.
• Separate Psychodermatology clinics should be introduced in all psychiatry and dermatology departments.
• Dermatology-Psychiatry liaison clinics have very important role in the management of these disorders.