COLLEGE OF INTEGRATIVE MEDICINE

Phone: 877-841-7241
FAX: 443-327-4763
Email: info@CollegeofIntegrativeMedicine.org
Web: www.CollegeofIntegrativeMedicine.org
Mail: CIM/Integrative Medicine Health Services, LLC
P.O. Box 407
Hampstead, MD 21074

# Integrative Medicine Approach to Psoriasis: A Diagnostic Summary and Treatment Strategies

Dr. Wayne Sodano
DC, DABCI, DACBN, CFMP, ND

*(Article adapted from CIM Module 27 – Dermatology and Periodontal Disease)*

Psoriasis is a chronic disease that affects 2-3 % of the world's population and between 2-4 % of the U.S. population.[i,ii] "Psoriasis is characterized by hyperproliferation and abnormal differentiation of epidermal keratinocytes, lymphocyte infiltration consisting mostly of T lymphocytes, and various endothelial vascular changes in the dermal layer, such as angiogenesis, dilation, and high endothelial venule formation. The proliferative cell population is approximately doubled in psoriasis, whereas the cell cycle is more than 8 times shorter (36 versus 311 hours), and daily production of keratinocytes in psoriatic lesions is approximately 28 times greater than that in normal epidermis."[iii]

"Apoptosis represents a counterbalance to proliferation, and decreased apoptosis is generally thought to be associated with epidermal hyperproliferation. Therefore, suppression of apoptosis has been proposed as a mechanism responsible for epidermal thickness in psoriasis."[iv] "Nuclear factor kappa B plays a role in balancing growth and differentiation in the epidermis. The ongoing examination of NF-KB signaling has revealed ever-expanding knowledge of its role in stress response, apoptosis, cell survivals, oncogenesis, and development. Activation of NF-KB transcription factor is one of the antiapoptotic mechanisms initiated during keratinocyte differentiation."[v] "The apoptosis inhibitor survivin is a recently described member of the inhibitor of apoptosis family expressed in most human cancers and also known to be a regulator of mitosis."[vi] Survivin is a bidirectional protein that regulates cell division and suppresses apoptosis. Both of these substances appear to be expressed in individuals with psoriasis; however one study found that they may not be a factor in epidermal proliferation and thickness seen in psoriasis.[vii]

A genetic predisposition is evident in psoriasis. "More recently, a plethora of data has emerged to suggest that psoriasis should be considered in fact a systemic inflammatory disease. Specifically, patients with severe psoriasis have been shown to have a higher risk of coronary artery disease, stroke, metabolic syndrome, cardiovascular mortality, and depression."[viii] Psoriasis has been accepted as a chronic immune-mediated inflammatory disorder caused by abnormal reactivity of specific T cells in the skin. "A clear relationship of psoriasis with conditions like celiac disease and Crohn's disease has been reported. Furthermore, the bowel mucosa of psoriatic patients without bowel symptoms have shown microscopic lesions and greater intestinal permeability, even when the mucosa appeared macroscopically normal."[ix]

Defects in cellular proliferation caused by increased arachidonic acid production, leukotriene B4 activation, neutrophils migration and epidermal can lead to skin plaque formation. "Factors contributing to changes in the levels of these chemical messengers include incomplete protein digestion, bowel toxemia and impaired hepatic function."[x] In adequate protein digestion, for instance, increased levels of undigested amino acids in the bowel lumen, which on exposure to intestinal flora, may form toxic polyamines, which have been shown to reduce cyclic adenosine phosphate production associated with defects in cellular proliferation. Gut dysbiosis, including endotoxins from streptococcal products and *Candidia albicans*, impaired liver function and bile deficiencies can lead to an increased level of toxins in the body contributing to defects in cellular proliferation. (Bile acids normally present in the intestines act to detoxify bacterial endotoxins.)

"A number of intrinsic and extrinsic factors can trigger the onset and relapse of psoriasis. Of the intrinsic triggers, emotional stress is considered to be a key exacerbating factor. Alcohol, epidermal trauma, sunburn, B-hemolytic streptococcal infection, gluten, viral infection and medications, including B-adrenergic blockers, angiotensin-converting enzyme inhibitors, terbinafine, non-steroidal anti-inflammatory drugs, lithium, chloroquine and interferon- alpha, are among the many extrinsic factors associated with psoriasis."[xi]

**Diagnostic Summary of Psoriasis**

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| **Genetic Predisposition** | Positive family history in 30% of cases |
| **Lesion description and common locations** | Circumscribed red, thickened plaques overlying silvery-white scale<br>Common locations: scalp; extensor surfaces of the wrist, elbows, knees, buttocks and ankles; and repeated sites of trauma |
| **Nail Analysis** | Pitting and flaking of the nails is common<br>Check nails for signs of protein/vitamin deficiency (e.g. white spots on the nails can indicate a zinc deficiency, small or not visible lunula can indicate hypochlorhydria) |
| **Tongue Analysis** | There is no 'skin' area of the tongue; however changes in the appearance can provide valuable clinical information.<br>Changes in the rear section can indicate sluggish digestion; color changes and indicate toxic burden and/or yeast infection; the tip of the tongue is the heart area, which can indicate emotional stress. Check for other signs of nutritional deficiencies |
| **Diagnostic test considerations** | CBC<br>Liver function tests (ALT, AST, GGT)<br>Stool Analysis<br>Thyroid panel<br>Food allergy panel<br>SIBO/Hyperpermeability test<br>Organic test<br>RBC fatty acid test |

## Therapeutic Considerations and Objectives

Checklist

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| ✓ Incomplete protein digestion | Stool analysis; Heidelberg Gastric Analysis |
| ✓ Bowel toxemia | Stool analysis; SIBO testing |
| ✓ Food allergies | Food allergy testing |
| ✓ Impaired liver function | Liver function test; Organic acid test |
| ✓ Bile deficiencies | Stool analysis; check for history of gallbladder issues |
| ✓ Alcohol consumption | Assess and remove from diet |
| ✓ Nutritional deficiencies | Nutritional Status Testing: (e.g. NutriEval; SpectraCell; Organic Acid; RBC fatty acid test or similar test) |
| ✓ Emotional stress | Psychological evaluation |
| ✓ Morning urinary pH | Checks for acid-alkaline balance (pH of 7.3 to 7.5 recommended) |

## Dietary Recommendations

- Food sensitivities need to be assessed and treated; consider elimination/gluten-free diet
- A mostly vegetarian diet should be considered; prescribe the following anti-inflammatory herbs: turmeric, red pepper, cloves, ginger, cumin, anise, fennel
- Alkaline diet: maintains the optimal internal chemical milieu for strong immunity, efficient removal of toxins and clearing of skin (monitoring urinary pH is helpful). 80% alkaline-forming food to 20% acid-forming food
- High fiber diets assist in binding toxins in the bowel and facilitates bowel motility and elimination
- Avoid red meats and dairy (high in arachidonic acid)
- Consume foods high in omega 3 fatty acids (e.g. fish); low allergenic nuts; supplementation may be needed
- Maintain hydration by drinking plenty of purified water daily
- Consume whole-grain products; avoid white flour
- Gluten-free diet
- Juicing in moderation: beets, carrots, cucumbers, lettuce, parsley, spinach, garlic

**Specific Nutrients for Psoriasis**

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| **Vitamin A** | Needed for normal epithelial differentiation |
| **Vitamin C** | May help with inflammation |
| **Vitamin D** | Anti-inflammatory and immunomodulatory (topical application should be considered) |
| **Vitamin E** | Decrease the release of pro-inflammatory cytokines |
| **Vitamin B12** | Stimulated T-helper and T-suppressor activity |
| **Selenium** | Inhibits NF-KB |
| **Zinc** | Immune-modulating |
| **Essential fatty acids** | Anti-inflammatory effects |

General recommended daily dosage for psoriasis[xii]

- Vitamin C: 500 mg b.i.d.
- Fish oil: 6 grams/day (equivalent to 720 mg DHA and 1028 mg EPA)
- Vitamin A: 5000 IU
- Vitamin B12: 250-1000 mcg with multivitamin
- Vitamin D: 400 – 1000 IU
- Vitamin E: 400 – 800 IU mixed

Botanical Medicines[xiii]

Consider the following if indicated by impaired digestion or liver function:

*H. canadensis* (goldenseal)

- The dose should be based on berberine content, because there is a wide range of quality in goldenseal preparations; standardized extracts are preferred three times a day.
- Dried root or infusion (tea): 2 to 4 grams t.i.d.
- Fluid extract (1:1): 2 to 4 ml (0.5 to 1 tsp) t.i.d.
- Solid (powdered dry) extract (4:1 to 8% to 12% alkaloid content): 250 to 500 mg t.i.d.

*S. sarsaparilla*

- Dried root or by decoction: 1 to 4 grams t.i.d.
- Liquid extract (1:1): 8 to 16 ml (2-4 tsp) t.i.d.
- Solid extract (4:1); 250 to 500 mg t.i.d.

S. Marianum (milk thistle)

- Silymarin: 70 to 210 mg t.i.d.

Physical Medicine[xiv]

- Sunbathing – caution not to burn
- UVB: 295 – 305 nm, 2mW/cm$^2$, 3 minutes three times a week

Topical Medicine[xv]

- Aloe vera
- Curcumin gel
- Mohonia aquifolium cream
- Topical vitamin D (calcitroil ointment)
- Emollients – ceramide containing (e.g. CeraVe, Mimyx, Aveeno Eczema Care)

References

[i] Abd Rabou FA, El-Ashmawy AA, Shamloula MM, Immunohistochemical Study of Survivin in Psoriasis. J Amer Sci. 2011; 7(9): 649-655.
[ii] Murray MT, Traub M. Psoriasis. In: Pizzorno JE, Murray MT. Textbook of Natural Medicine. 4th Ed. St. Louis: Elsevier; 2013. p. 1760.
[iii] Gunduz K, Temiz P, Gencoglan G, Inanir I, Catalkaya A. Expression of Nuclear Factor Kappa B and Survivin in Psoriasis. ISRN Dermatology. Volume 2012: Article ID 257059.
[iv] Ibid.
[v] Ibid.
[vi] Murray MT, Traub M. Psoriasis. In: Pizzorno JE, Murray MT. Textbook of Natural Medicine. 4th Ed. St. Louis: Elsevier; 2013. p. 1760.
[vii] Gunduz K, Temiz P, Gencoglan G, Inanir I, Catalkaya A. Expression of Nuclear Factor Kappa B and Survivin in Psoriasis. ISRN Dermatology. Volume 2012: Article ID 257059.
[viii] Denby K, Duffy N, Norman RA, Blackcloud P, Tausk F. Integrative Management of Psoriasis. In: Norman RA, Shenefelt PD, Rupani RN. Integrative Dermatology. Oxford: Oxford University Press; 2014. p. 373.
[ix] Murray MT, Traub M. Psoriasis. In: Pizzorno JE, Murray MT. Textbook of Natural Medicine. 4th Ed. St. Louis: Elsevier; 2013. p. 1761.
[x] Leach MJ. The Dermatological System. In: Hechtman L. Clinical Naturopathic Medicine. Australia: Churchhill Livingstone; 2012. p. 652.
[xi] Ibid.
[xii] Ibid. p. 657.
[xiii] Murray MT, Traub M. Psoriasis. In: Pizzorno JE, Murray MT. Textbook of Natural Medicine. 4th Ed. St. Louis: Elsevier; 2013. p. 1765.
[xiv] Ibid. p. 1766.
[xv] Ibid.