Psychoneuroimmunoendocrinology describes the unity of mental, neurological, hormonal and immunological functions with its many potential applications. PNIE addresses the impact of cognitive images of the mind (whatever its elusive definition) on the central nervous system and consequent interactions with endocrine and immune systems. It encompasses many arenas, including biofeedback and voluntary controls, impacts of thought and belief on physiology, past and present effects of stress on mental, emotional and physical function, placebo effects, effects of social relationships on health and disease, and impacts of "energy medicine" on personal function and that of others. This column highlights the impact of cogent studies from these arenas on the understanding of holistic medicine in the new millennium.

Psychodermatology

Atopic dermatitis and stress

Atopic dermatitis is a chronically relapsing inflammatory skin disease with eczematous skin lesions and severe pruritus as principal symptoms. The relevance of stress in the pathology is widely accepted and the specific goal of this study was to investigate the impact of acute psychosocial stress on atopy-relevant immune functions in atopic dermatitis patients; 36 patients and 37 nonatopic controls were exposed to a laboratory stressor including a free speech and mental arithmetic tasks in front of an audience (the “Trier Social Stress Test”). Blood samples were collected 10 minutes before and 1, 10 and 60 minutes after the stress test as well as 24 h after the experiment at identical time points under resting non-stressed conditions. Significantly elevated lymphocyte, monocyte, neutrophil and basophil counts 10 min after the TSST (all p<0.001) were not different between subjects and controls. In contrast, eosinophil counts were found to be significantly elevated only in atopic dermatitis patients and not in controls (p<0.01). Patients but not controls showed increased IgE levels (p<0.05) 24 h after the stress test. Immunomodulators interferon-gamma (p<0.001) and interleukin-4 (p<0.001) were raised and attenuated, respectively, by the stress experience in both subjects and controls.


COMMENT: These findings suggest that stress affects white blood cell, interferon-gamma and interleukin-4 in everyone, but that there is a subset of people prone to rapid IgE and eosinophil increases within 10 minutes of exposure. Whether stress management training can attenuate these generic leucocyte changes and the eosinophilic changes in atopic-prone individuals will need to be shown through more thorough investigation. There is certainly evidence (see below) that the skin appearance and symptoms can be significantly altered by suggestion and imaging approaches. It would seem likely, as this study suggests, that this improvement comes about through alteration in underlying immunological and biochemical processes.

Atopic dermatitis and relaxation techniques and autogenic affirmations

The effectiveness of four treatments for atopic dermatitis, a chronic skin disorder characterized by severe itching and eczema, was assessed in randomized controlled fashion. A dermatological educational program was compared to autogenic training as a form of relaxation therapy, cognitive-behavioral treatment (comprised of relaxation, self-control of scratching, and stress management techniques) and combined behavioral and autogenic training treatment. These four approaches were also compared to standard medical care. At one-year of follow-up, autogenic training, cognitive-behavioral and combined treatments had led to significantly greater improvement in skin condition than either intensive educational or conventional dermatological treatment. Significant reductions in the use of topical steroids were also recorded.


COMMENT: These results corroborate preliminary reports that psychological interventions are useful adjuncts to dermatological treatment in atopic dermatitis. If the power of suggestion with visible images is a valid approach to fostering bodily changes, the skin, since it is our most visible organ would be a logical starting point. In this study, both cognitive-behavioral and autogenic-relaxation approaches as well as the combination brought about better 1-year results than mere education or standard conventional treatment. Participative and experiential approaches usually achieve better results than didactic approaches usually featured in educational programs. Practitioners can weave into the education that is a requisite part of a holistic approach, a variety of ways to enthrall patient participation. One beginning is to help paint for patients the images of improvement. “Images or mental pictures tend to produce the physical conditions that correspond to them.” (Assagioli R. The Act of Will. New York, Viking, 1973) and “The human nervous system responds not only to perceived reality but also equally to imagination.” (Anderson R, unpublished, 1984)