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ROLE OF PATHOLOGICAL INVESTIGATIONS IN SKIN DISORDERS (*TWACHA VIKAR*)

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ABSTRACT

Skin has been described as the mirror of the body. It reflects the physical, mental and psychological state of individual. Skin disorder is a condition or disease affecting skin. A skin lesion is a part of skin that has an abnormal growth or appearance compared to the skin around it. The prevalence of skin disease in India is 10-12% of total population with eczema and psoriasis being the major contributors. Due to pollution, UV light and global warming, pigment darkening, skin cancers and infectious diseases are increasing at a faster pace. Not all the skin lesions are preventable e.g moles, frickles etc are benign growths that are common and unavoidable. Some skin disorders have serious impact on life. They can cause physical damage, embarrassment and social and occupational restrictions. Pathological investigations are indicated when cause of skin disease is not obvious from history and physical examination alone. Different skin disorders show local or systemic blood changes, changes in LFT, KFT, hormonal changes etc. Therefore it may be helpful to reach the diagnosis. Not every skin disorder needs investigations. Some skin disorder are primarily developed and some are developed as a complication of other diseases like diabetes, tuberculosis etc. In *Ayurvedic* texts, skin diseases are included under *kushtha vyadhi* and some are in *kshudra roga*. So, this paper will present some investigations which is required to be done in skin disorders (*twacha vikar*).

KEYWORDS: Skin has been described *kshudra roga*. (*twacha vikar*).

INTRODUCTION

Skin is the largest organ of the body with a major protective function, protecting the body from physical and chemical injuries. Dermis is the layer of skin, being fibrous, gives support to the blood vessels and lymphatics. It has free nerve endings. It also contains mast cells that secrete histamine and other vasoactive amines and lymphocytes that play an important immunologic role. Skin disease is marked by its variety and visibility. Skin disorder may result from any systemic disease and it may be helpful not only in diagnosis but also in further appropriate management. The most fundamental and important methods of medical examination for skin diseases are visual inspection and palpation. The recent development of biochemical and immune system examination methods has made diagnosis more accurate. However, naked-eye and dermoscopy inspection and palpation are always the most important in acquiring information on the nature of skin lesions, including their distribution, form, color, shape and firmness. In *Ayurveda*, *Trividha Parikshan Paddhati* was described by *Charakacharya* and *Sushrutacharya* i.e. *Darshan, Sparshan* and *Prashna*. By using this *Parikshan Paddhati*, they carried out the diagnosis and management of skin disorders.

AIM — To study the role of pathological investigations in skin disorders.

OBJECTIVE - To study the role of pathological investigations in systemic diseases related to skin disorders.

MATERIAL AND METHODS

References are taken from *Ayurvedic* textbooks and *Samhitas* for *ayurvedic* aspect and modern textbooks for modern aspect.

Some of the systemic diseases which include skin disorders are given below-

1. Tuberculosis can involve the skin as a result of haematogenous / lymphatic spread or contiguous extension of infection (Mycobacterium tuberculosis) from a latent or active tuberculous focus.
2. Various disorders of pigmentation develop as a result of imbalance in the pathophysiology of normal skin colour.
3. In a number of acquired diseases such as connective tissue diseases (systemic lupus erythematosus, scleroderma), involvement of skin in the form of palpable purpura and kidneys most commonly as glomerulonephritis is seen. Irrespective of the disease etiology, certain skin lesions may be present in a significant proportion of patients diagnosed with end

stage renal disease (ESRD). Pruritis is the most frequently occuring symptom of ESRD. Amyloidosis, primary or secondary may present as purpura, waxy papules and nodules and concomitant renal involvement.

4. Hepatic diseases have been associated with a large number of skin disorders. E.g. Caput medusa refers to dilated and radiating veins seen around the umbilicus due to portal hypertension. Pruritis is the most common symptom in cholestatis due to retension of cutaneous bile acids.

5. Skin disorders present in rheumatic diseases due to acute and chronic inflammation of the connective tissues of the musculoskeletal system, blood vessels and skin.

6. Acute cutaneous LE(lupus erythematosus) may be contained as the classic butterfly rash or malar rash of SLE or may be more generalised as a exanthematous eruption or a toxic epidermal necrolysis like presentation.

7. Patient with diabetes mellitus commonly suffer from a wide variety of skin disorders like fungal and bacterial infections, diabetic foot, insulin reaction, diabetic bulla etc. The pathogenesis of these diseases can be attributed to advanced glycated end products (AGEs) and autonomic sudomotordysfunction.

8. In Hypothyroidism the skin is cool, dry has a distinctive yellow-tinged translucent pallor and may show livedo reticularis. It results from a combination of anaemia, jaundice, carotenaemia etc. In adults, associated polycystic ovarian disease and hirsutism may be commonly seen. In Hyperthyroidism cutaneous features include warmth, increased sweating, generalised pruritis and urticaria.

9. In adrenal disorder, the skin of the patient with primary adrenal insufficiency or Addisons disease shows diffuse brown hyperpigmentation as the hallmark of the disease. There is prominent darkening of areolae, scrotum, labia, palmar and plantar creases and scars.

10. In gastrointestinal diseases, superficial ulcerations or aphthous ulcers in the oral cavity may occur in the patients with ulcerative colitis and Crohns disease. Erythema nodosum is usually present in the inflammatory bowel disease. Acute pancreatitis can be associated with skin lesions such as subcutaneous fat necrosis, Cullens sign etc.

11. In long-standing heart diseases, skin changes commonly seen include cyanosis, erythema etc. Finger clubbing is present in many congenital cyanotic heart diseases. In subacute bacterial endocarditis, purpura or/and pustules are seen secondary to septic emboli or immune complex vasculitis.

12. Pulmonary involvement may occur directly due to skin disease as in metastatic melanoma. In connective tissue diseases such as SLE and dermatomyositis and others such as amyloidosis, both organ(heart and lungs) systems are involved.

13. In internal malignancy, skin involvement may occur as a part of genodermatosis with malignant potential, direct tumour spread from adjacent tissues, cutaneous metastasis and paraneoplastic syndrome.

DISCUSSION

Following pathological investigations could be done in different skin disorders —

Complete Blood Count Neutrophilia –

infections - impetigo, carbuncles, folliculitis, cellulitis etc.

inflammatory disorders - generalised pustular psoriasis, erythroderma, pyoderma gangrenosum systemic malignancy (leukemia) reaction to systemic steroid therapy.

Eosinophilia

atopic disorders, especially eczema parasitic infestations worms (intestinal / systemic), scabies collagen vascular disease — dermatomyositis bullous disorders- dermatitis herpetiformis malignancy -eosinophilic leukemia.

Lymphocytosis

viral infections- infectious mononucleosis, exanthemata bacterial infections- tuberculosis, syphilis, typhoid.

ESR

infections inflammatory disorders e.g. vasculitis SLE malignant neoplasms.

Serum protein estimation

SLE, hypoproteinemia

Blood Glucose and glycosylated Hb detect and monitor diabetes, which may be of relevance in infection or skin diseases associated with metabolic syndrome.

Proteins including immunoglobulins, cryoproteins and complement, are assessed in patients with vasculitis or connective tissue diseases.

Specific Serology is requested for infections Hep.B, Hep.C, HIV, Syphilis Hormonal tests are occasionally arranged in females with- Acne, hirsutism, androgenetic alopecia.

Hormonal essay

It is an important line in investigating certain skin diseases especially those associated with endocrine dysfunction.

Cryoglobulins Test

Purpura, raynauds disease, cold sensitivity cyanosis, leg ulcers, SLE.

ANTINUCLEAR ANTIBODY (ANA)

collagen vascular disease- SLE, chronic liver diseases , tuberculosis, leprosy, ulcerative colitis, malignancy.

Liver Function Test

Diseases of liver may manifest with internal and cutaneous manifestations.

Renal Function Test — amyloidosis, glomerulonephritis etc.

Urine analysis

Connective tissue disorders or vasculitis can cause renal damage such as glomerulonephritis Persistant microscopic haematuria could also point to a urological malignancy.

Stool examination

parasitic infestations worms (intestinal / systemic) Urinary and faecal or serum porphyrins are requested in patients that may have cutaneous porphyria.

Radiological examination Chest X-ray

To exclude paraneoplastic cause of connective tissue disorders and vasculitis, tuberculosis CT Scan, MRI, USG.

SKIN BIOPSY — skin cancer, psoriasis, infections.

TZANCK SMEAR TEST — pemphigus vulgaris, herpes simplex and herpes zoster.

PATCH TEST — allergic contact dermatitis.

Slit-smear Test – leprosy.

Dermatoscopy – melanoma.

Diascopy — vascular/nonvascular, haemorrhagic lesions.

In ancient period, only *Trividh Parikshan Paddhati* was conducted, no other specific *Parikshan Paddhati* was mentioned in *Ayurvedic* literature. Hence, most of the skin disorders was described under *Kushtha Vyadhi*.

CONCLUSION

From above discussion we conclude that these investigations are also important in different skin disorders for specific diagnosis and further management.

REFERENCES

1. YP Munjal, API Textbook of Medicine —Part 11 Dermatology, Vol-1, Jaypee publication, 10th edition, page.no.702,708.
2. John A.A. Hunter, Davidsons Principles and Practice of Medicine, Churchill Livingstone publication, 20th edition, pg.no.1262.
3. YP Munjal, API Textbook of Medicine —Part 11 Dermatology, Vol-1, Jaypee publication, 10th edition, page.no.711,714.
4. Harsh Mohan, Textbook of Pathology, Jaypee publication, 5th edition, pg.no.796.
5. John A.A.Hunter, Davidsons Principles and Practice of Medicine, Churchill Livingstone publication, 20th edition, pg.no.1264.
6. YP Munjal, API Textbook of Medicine —Part 11 Dermatology, Vol-1, Jaypee publication, 10th edition, page.no.744.
7. www.dermnetnz.org, Dr.Amanda Oakley, MBChB FRACP, Dept. Of dermatology Waikato Hospital, Hamilton, New Zealand, 2004 assessed on 10march 2017.
8. www.ncbi.nlm.nih.gov, McKay M, official techniques for dermatologic diagnosis, pg.no.52 assessed on 12 march 2017.
9. Kaviraj Dr. Ambikadattashastri, Sutra sthana, Sushruta Samhita edited with Ayurveda Tattva Sandipika Hindi Commentary, Part1, Chaukhamba Sanskrit Sansthan, Varanasi.pg.no.256.
10. Vaidya Bhrahmanand Tripathi, Purvardha Vimana sthana adhyaya 4, Charak Samhita edited with Charak Chandrika Hindi Commentary, Vol.1, Chaukhamba Surbharati Prakashan, Varanasi, 2012.
11. Kaviraj Dr.Ambikadattashastri, Nidana sthana, Sushruta Samhita edited with Ayurveda Tattva Sandipika Hindi Commentary, Part1, Chaukhamba Sanskrit Sansthan, Varanasi.pg.no.381.

12. Vaidya Bhrahmanand Tripathi, Purvardha Kushtha Nidana adhyaya, Charak Samhita edited with Charak Chandrika Hindi Commentary, Vol.1, Chaukhamba Surbharati Prakashan, Varanasi, 2012 pg.no.642.
13. Vaidya Bhrahmanand Tripathi, Uttarardha Kushtha Chikitsa adhyaya, Charak Samhita edited with Charak Chandrika Hindi Commentary, Vol.2, Chaukhamba Surbharati Prakashan, Varanasi, 2012 pg.no.263.