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## CLINICAL ARTICLES

### TWENTYFIVE YEARS OF DERMATO-VENEREOLOGY IN INDIA

A Review

SHARAT C. DESAI\*

Many disciplines have contributed much knowledge of importance to Dermato-Venereology. I have consulted 228 reports from many sources to compose this story.

I would like to begin with a bird's eye-view of the nature of Dermato-Venereology problems in India. This was brought out in a survey in 1959 and is as under:-<sup>5 5</sup>

( TABLE I ).

The pattern of diseases from different urban hospitals in India show a great uniformity. Parasitic diseases account for almost half the total cases, while the incidence of venereal diseases and allergic dermatoses is about 10-20% each. The remaining 400 and odd dermatologic problems account for 20% of outpatients.

#### I. PARASITIC DISEASES

It is hardly realized that intra-family infectivity rates of scabies, pyoderma, fungus infections and leprosy are high, viz, 100%, 50-60%, 40% and 10% respectively. Hence I formulated the concept of Infectious Dermatoses to emphasize the necessity for an epidemiologic approach to these conditions. Curiously, virus infections like herpes simplex, zoster, warts and mollusca had limited contagiousness.<sup>5 8</sup>

There is only one report on an unusual Norwegian-type scabies.<sup>1 0 4</sup>

#### (A) Bacterial infections:

Investigation on the normal bacterial flora of skin showed individual variations. While *Staphylococcus albus* was found from all the subjects, *Staphylococcus aureus*, Beta-haemolytic streptococcus, *Streptococcus viridans*, *E. coli*, *Proteus vulgaris*, aerobic spore bearers, anaerobic diphtheroides and *Candida* species were recovered from some of the investigated subjects.<sup>1 0 9</sup>

\*Honorary Professor of Dermato-Venereology, G. S. Medical College and K. E. M. Hospital, Parel, Bombay-12 (India).

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Investigations on pyoderma showed that both *Staphylococcus aureus* and *Beta-haemolytic streptococcus* were responsible agents.<sup>108</sup> The role of *Beta-haemolytic streptococcus* was also confirmed in another report in which 74.6% of children with pyoderma gave positive cultures which was correlated with high ASO titres.<sup>119</sup>

The role of carriers of *Staphylococcus* and *Streptococcus*<sup>119</sup> was emphasized.

*Staphylococcus aureus* showed variable drug resistance against sulpha, penicillin, streptomycin, chloramphenicol, tetracycline and erythromycin. High incidence of resistance to penicillin, streptomycin and sulpha was recorded.<sup>108, 143</sup>

The cause of increased susceptibility of diabetics to cutaneous infections was probably higher skin sugar in subjects with infections. The skin lactic acid showed wide variations and was lowest in the diabetics with infections.<sup>116</sup>

Antibacterial activity of traditional medicinal oils was studied and showed that Neem oil was poor while Malkanguni, Davudi and Karanja oils<sup>148</sup> had significant *in vitro* bacteriologic effect.

Unusually resistant type of pyoderma was reported in the adult males, who suffered from chronic folliculitis on the legs. Except for hypergammaglobulinemia, no abnormality was found in blood counts, cultures, glucose tolerance tests and histology.<sup>65</sup> Unaware of this report, this condition was later named as *Dermatitis Cruris Pustulosa*.<sup>101</sup>

#### (B) *Fungous infections:*

(i) *Dermatomycoses.* The incidence was reported to be 10% of skin cases. The main dermatophytoses are the inflammatory *tenia versicolor*, inflammatory and non-inflammatory scalp ringworm and candidiasis. Athlete's foot was rare due to infrequent use of foot wear.<sup>56</sup>

Many studies brought out the pathogenic dermatophytes responsible for dermatomycoses in India as follows: <sup>56, 91, 144, 22, 84, 87, 107, 97, 180, 135, 99, 120, 59, 125</sup>

#### (TABLE II)

Of the above, *T. rubrum* was the predominant pathogen responsible for ringworm of skin, and *T. violaceum* for scalp infections. High epidemicity of 45-60% of both these organisms were recorded in two studies.<sup>58, 72</sup>

Several studies on the nature of immunity in ringworm were carried out. Methodology of experimental skin infections with *T. rubrum* in humans was established and tissue biology of the fungus etiology and host-parasite relationship were explained.<sup>57</sup> Extended studies further brought out that the nature of immunity in fungus infections was not of the acquired type, but of the natural type.<sup>62</sup> Experimental primary disease and reinfection terminate at a fixed period in each individual which varied with age. Development of hypersensitivity prolongs the disease.<sup>63</sup> The fungistatic property of sera from normals and patients with chronic ringworm did not differ from each other<sup>69</sup> although dysproteinemia was recorded in chronic

generalized ringworm.<sup>61</sup> Mechanisms of natural immunity in skin ringworm due to *T. rubrum* based upon these findings were postulated.<sup>64</sup> In other reports the mechanism of hair penetration by fungus was claimed to be chemical and not mechanical.<sup>128, 219, 225</sup> Trichophytin skin testing was carried out in 658 subjects and showed variations with age. Large number of positive tests in normals indicated subclinical exposures.<sup>71</sup>

Problems of evaluating antifungal drugs were elucidated. Difficulties inherent in vitro, in vivo and clinical assessments were brought out to avoid false hopes with drugs<sup>73</sup>. Selective in vitro antifungal effects of griseofulvin to pathogenic ringworm fungi were studied.<sup>221</sup> Another report demonstrated griseofulvin effect in patients by KOH examination of scrapings. Several facets of assessment of dosage, limitations of therapy, and problems of recurrences were brought out<sup>51, 54</sup>.

Biochemical studies demonstrated the presence of alkaline phosphatase, RNA, DNA and polysaccharides in *T. rubrum*,<sup>21</sup> and a proteolytic enzyme in *T. quinckeianum*.<sup>221</sup>

(i) Candidiasis is a common disease giving rise to thrush in infants and children, vaginitis in children and adults, and various forms of mucocutaneous diseases and paronychia. Besides *C. albicans*, *C. tropicalis*, *C. stellatoidea* and *C. krusei* are reported to be pathogenic.<sup>44, 56, 60</sup> Studies on the recovery of candida as a common commensal and its increased recovery under antibiotics are reported.<sup>195, 44</sup> The occurrence of mycelial phase indicates pathogenicity in some candidiasis.<sup>44</sup> Biochemical factors responsible for yeast-mycelia transformations governing their pathogenicity were brought out.<sup>68</sup>

Hamycin and Nystatin were effective in the treatment of muco-cutaneous surface moniliasis<sup>88, 95, 89, 90, 60</sup> But both are not useful for systemic infections. Predisposing factors require more attention than is realized.

### (iii) Subcutaneous mycoses.

Several cases of Chromoblastomycoses were reported in India.<sup>78, 105, 910, 160, 66</sup> Lesions may start as a papule and gradually develop to a cauliflower growth or remain as a chronic thickened patch for many years. In one case, an association with cerebral abscess was reported.<sup>66</sup> Although sclerotic fungal cells in the skin were diagnostic of the disease, cultural studies are needed for accurate species diagnosis.

Subcutaneous phycomycoses is a recently recognized rare disease, by the demonstration of fungal elements in biopsy. Patients were generally children and showed rapidly increasing acute or subacute large subcutaneous masses. Response to potassium iodide even in small doses with rapid diminishing swelling is also suggestive of diagnosis.<sup>211, 132</sup>

Mycetoma: Possibilities of histologic diagnosis of many different species of fungi causing mycetoma were brought out<sup>214, 42</sup> and the following pathogens were reported.

(TABLE III)

*(C) Virus infections.*

The causes of bleeding in haemorrhagic small pox were investigated. Thrombocytopenia, increased capillary permeability, abnormalities in coagulation time, prothrombin time and thromboplastin generation test suggesting a consumption coagulopathy were demonstrated.<sup>181</sup>

Treatment of small pox with so-called antiviral agent CG662 and Marboram was found ineffective, contrary to previous claims.<sup>178</sup> Another drug Asamidine, an antimetabolite was claimed to reduce fatality, toxicity, and pyrexia in ordinary small pox, but it was ineffective in the severe haemorrhagic and flat types,<sup>102</sup> which are the real testing grounds.

In viral diseases of warts and condyloma acuminata, Thuja, a homeopathic medicine given orally and by application was claimed as effective.<sup>189</sup>

ECHO virus serotypes 6 and 14, were isolated for the first time in 2 cases<sup>140</sup> with vesicular eruptions.

*(D) Other infections.*

Post-Kala-azar dermal leishmaniasis was thought of as a possible reservoir of infection and was reported in 6.67% of 150 cases of systemic leishmaniasis. Encouraging results in the epidemiologic control of leishmaniasis were obtained by pyrethrum spraying.<sup>20</sup>

Skin tuberculosis: The incidence of different clinical types is reported as 0.24% of skin cases. Association of this condition with tubercular disease of other organs was brought out. Local injections of streptomycin or isoniasid may be satisfactory in localised disease.<sup>185, 46, 13</sup> Resistance to treatment of the papulic-fibrotic lupus was reported.<sup>46</sup>

## II. Allergic Eczematous Dermatoses

The incidence in skin department in India varied from 10.28% of skin cases.<sup>66</sup> In Bombay, it was 15%, of which one-fifth required hospitalization. Main allergic diseases of skin were urticaria, localised or disseminated type of neurodermatitis, prurigo, seborrhoeic and contact eczema, and bacterial sensitization. Atopy and nummular eczema were rare.<sup>70</sup>

In children, allergy accounted for almost one-third of skin cases. The manifestations were pruritus, angioneurotic edema and urticaria, atopic dermatitis, contact dermatitis and allergic dyschromia. Sensitization to roundworms was a frequent cause. Unusual causes of contact dermatitis in circumoral regions were tomatoes, mangorind or artificial nipples.<sup>186</sup>

The first case of penicillin induced fixed-drug eruptions was noted in India.<sup>127</sup>

Russels viper venom was helpful in the treatment of recurrent allergic Hcnoch Schonlein Syndrome.<sup>129</sup>

Various causes of contact allergic dermatitis were brought out from one department so far. Out of 208 positive patch tests for contact eczema, industrial contactants like binder, cutting oil, keroséne, crude oil, and machine oil accounted for only 15 cases. The major causes were topical medicaments in 43 cases, kumkum in 40 cases, foot wears in 72 cases and soaps in 23 cases. The remaining cases were allergic to colour, lysol, flit, tobacco, ink, gold ornaments, kerosene, nickel, spectacle frame, green crepe paper, etc.<sup>70</sup> Unusual causes were bronze ornaments<sup>80</sup> and congress grass (*parthenium Hysterophorus linn*),<sup>124</sup>

Limitations and utility of skin tests were brought out on 35,000 skin tests, 5745 were found positive, but significant correlation could be made in only half of them. Reactions to house dust were frequent, but significant only in the diagnosis of respiratory and eye allergy, and not in skin allergy.<sup>117</sup>

One thousand patients were tested for penicillin allergy. Out of 8 positive reactions, 5 were found in allergic subjects.<sup>1</sup>

Hazard of intradermal testing was recorded in one case, who developed anaphylactoid reaction due to testing with streptomycin.<sup>83</sup>

A histamine iontophoretic method for diagnosing allergy such as angioneurotic oedema, allergic rhinitis, food allergy, contact dermatitis, etc., was reported.<sup>142</sup>

The mode of action of *S. anacardium* (marking nut) was investigated and showed disruption and decrease in the number of mast cells with reduction in the skin histamine. This effect was similar to FVP and compound 48/80.<sup>23</sup>

The importance of choosing a suitable base for topical therapy was brought out by paired comparison of Triamcinalone in ointment and cream bases. It was shown that improvement varied with the base in different subjects.<sup>175</sup>

Caution was advocated in the use of mepyramine like antihistamines in patients receiving adrenergic blocking agents like guanethidine.

### III. PIGMENTARY DERMATOSES

Vitiligo: Several studies brought out limitations of psoralen therapy. Complete cure could be achieved in only 21–28% of cases, moderate improvement in 40–45% and failure in 10–25%.<sup>204, 12, 50</sup> Similar results were also recorded with gold therapy and bouchi oil applications as well as on only UVR/Kromayer therapy. Hence skin irritation was thought to be helpful common factor in different approaches.<sup>50</sup>

Tolbutamide was also claimed to produce some pigmentary effect. It has photosensitizing action and showed a reduction in the erythema dose of UVR in some subjects.<sup>185, 92, 199</sup>

Several investigative studies were carried out in vitiligo. Serum copper levels in vitiligo, hyperpigmentation and normals showed no significant alterations.<sup>111</sup> Serum enzymes such as SGOT and alkaline phosphatase were found elevated in some patients, while ascorbic acid, leucine amino-peptidase and SGPT were normal.<sup>213, 95, 96</sup> Paraphenylene diamine oxidase activity had lower values than normals in 80% cases.<sup>95</sup>

Higher levels of caerulo-plasmins were found.<sup>85</sup> Skin of vitiligo patients showed increased succinic dehydrogenase and acid phosphatase activity.<sup>40</sup> ABO blood group and secretory status in vitiligo patients had no correlation.<sup>81</sup> None of the findings could be significantly correlated with the disease. In this respect findings of low acidity in 49% and achlorhydria in 12% of 340 patients may be of interest.<sup>197</sup>

Albinism: Genetic study of a family showed that it has a recessive character with adverse effects of consanguinity.<sup>193</sup>

Hyperpigmentation was treated by PABA given orally. It was found effective and safe sun screening agent for treating actinic hyperpigmentation. It showed consistent sun screening effect by increased minimum erythema dose of ultra-violet rays in treated subjects.<sup>134, 136</sup>

#### IV. the Troublesome Three of Diseases of Unknown Aetiology.

##### 1. Psoriasis.

The incidence is 1% of total skin cases from available reports. The disease has maximum frequency between 15-45 years, family incidence 4-12%, and arthropathy is found in some rare cases.<sup>3, 196, 223, 122, 7, 143</sup> A rare case of psoriasis of mucous membrane is reported.<sup>126</sup> Goeckerman's regime is a preferred treatment. Benefits of androgen<sup>3</sup>, vitamin A and B<sub>12</sub><sup>215</sup> are also claimed. Psoriasis is common in Gujarat where majority are vegetarians. Hence it was thought unlikely that taurine ingestion is a major aetiological factor<sup>225</sup> as claimed in Western literature.

Histopathological study of psoriasis at various stages did not always show all the characteristic features. Under treatment, regression occurs first in the stratum corneum and granulosum, and later in the dermis. Acanthosis, capillary dilatation and cellular infiltration in the dermis remain even in healed lesions as well as in the normal skin of patients.<sup>121</sup>

##### 2. Pemphigus.

All varieties of pemphigus and its occurrence in younger age group, besides in the middle and old age was reported. Blood transfusions and comparatively smaller dose of steroids were found adequate to control the disease.<sup>4, 53, 14, 112, 161</sup> The mechanism of blister formation was found the same in all bullous diseases.<sup>114</sup> The proteolytic activity varied in blister fluids and the sera of patients. The proteolytic substance was proteinous in nature and thought to be cathepsin.<sup>115</sup> The mechanism of blister formation in pemphigus showed intraepidermal cavity formation by acantholysis and disintegration of cells. Later liberation of several polypeptides leads to increased capillary permeability resulting in collection of serum, electrolytes and colloids.<sup>110</sup>

Substances such as 5-HT, histamine and acetylcholine do not appear to initiate the formation of blisters.<sup>113</sup>

A cytogenic study on epidermolysis bullosa showed normal number and karyotype of chromosomes.<sup>203</sup>

### 3. Lichen planus.

The incidence is maximum in 20-40 age group, but occurs at all ages. Different types of lichen planus such as mucosal, localized, hypertrophic and bullous varieties are encountered in India. The unusual types noted were actinic, fixed pigmentary, bullous and generalized hypertrophic lesions.<sup>112, 116, 140</sup> Auto-vaccine and penicillin were claimed to be effective in treatment.<sup>45</sup>

## V. Nutritional and Metabolic Disorders

### 1. Nutritional dermatoses.

(a) Kwashiorkor: Qualitative reduction in the total as well as differential nucleoproteins were observed in the skin of 31 children. Increase in alkaline phosphatase and reductase and reduction in ascorbic acid contents of the skin were noted, and there was a reduction in serum vitamin A and C levels.<sup>167</sup>

Estimation of 6 aminoacids in hairs of Indian and African patients with kwashiorkor showed significant reduction in cystein content, compared to normals and the undernourished. This was not related to the discolouration of hairs and this abnormality was reversed after high protein diet.<sup>170</sup>

(b) Phrynoderma: Studies on the dietaries of subjects with phrynoderma showed inadequate fats. Clinical improvement occurred with increase in the initially low iodine value of serum fatty acids after therapy with safflower and gingily oils. This suggests that this condition is associated with the deficiency of essential fatty acids and not of vitamin A. B-complex vitamins additionally produce clinical improvement in some cases.<sup>205, 127, 44</sup>

Lower haemoglobin and plasma cholesterol levels, higher plasma proteins without abnormalities in protein fractions, increased red cell fragility and normal serum vitamin A levels were also noted in phrynoderma.<sup>19, 205</sup>

(c) Xeroderma and Xerophthalmia: Patients showed low serum vitamin A levels. Though vitamin A therapy was effective against night blindness and corneal abnormalities, xeroderma and conjunctival changes do not respond.<sup>43</sup>

(b) Ichthyosis: Five cases of ichthyosis vulgaris in a family treated with vitamin A over a period of one and a half years did not show any improvement.<sup>216</sup>

### 2. Metabolic studies.

Porphyria: Several reports document the existence of porphyria, viz., chronic mixed type, one case; hepatic type, one case; erythropoietic type, six cases; and acute intermittent type, two cases. Treatment reported useful was ACTH in two cases, steroids in three cases, and chloroquine in three cases.<sup>168, 198, 75, 183, 38, 37</sup>

Systemic association of Xanthelasma palpebrum was investigated in a large series of 141 cases. Diabetis was found in 14.8% cases, coronary arterial disease in 40.2% and gall-bladder disease in 14.3%. Marked hypercholestremia was not common. Elevation of serum triglycerides and altered beta-alpha-lipoproteins ratio was observed in majority of subjects.<sup>41</sup>

The high incidence of pyoderma, pruritus and moniliasis, as indicators of diabetic diathesis was brought out.<sup>11</sup>

Qualitative and quantitative analysis for aminoacids in skin showed the presence of 20 aminoacids in varying proportions in all the regions.<sup>186</sup>

Serum cholesterol levels in several skin diseases were studied, and were lower than normal in majority of cases. In seborrhoeic dermatitis, no significant difference was seen.<sup>224</sup>

Estimation of squaline and cholesterol contents of sebum from 6 cases showed cholesterol values in agreement with Western reports, while squaline was relatively low. Feeding of different fats did not chemically alter sebum, nor was it related to serum cholesterol levels.<sup>166</sup>

Studies on sweat using chemical and isotopic methods established that skin is an important channel of iron loss.<sup>5</sup>

## VI. Collagen and Other Systemic Diseases

### 1. Collagen diseases.

**Systemic Lupus Erythematosus (SLE):** One case with familial incidence in a brother and a sister has been brought out in a series of 20 cases. LE test was positive in 12 cases. Symptoms include fever, anaemia, and involvement of joints, heart, pericardium, lungs, lymphnodes, mucosa, eyes and nervous system. Many types of rashes were met with. Psychic symptoms were present in 32%. Pregnancy precipitated relapse in 4 cases and initiated the disease in 2.<sup>181</sup> Self limitation of drug induced SLE and the necessity to use antimalarials in homeopathic doses of 10-20 mg. to treat acute episodes were reported.<sup>47</sup> LE test was performed on 333 subjects with varying clinical diagnosis by 3 laboratory methods. It showed 80% positive results in SLE.<sup>227</sup> The test was not affected by anticoagulants, thrombin, serum, absorption with auto-red cells and antisera. Mepacrine hydrochloride was found to interfere with it.<sup>174</sup>

**Scleroderma:** In a series of 14 cases reported, all had acrosclerosis. Oesophageal dilation was shown in 4 cases and pulmonary changes in 3 cases.<sup>182, 103</sup>

Aminoacids of skin were estimated in lupus erythematosus. Similar alterations were found in all the 3 clinical types of LE, which was different from scleroderma.<sup>147</sup>

Histochemical demonstration of succinic dehydrogenase in the muscles was used as interesting index of metabolic activity of this tissue, in collagen disorders.<sup>74</sup>

### 2. Systemic diseases.

The cause of pruritus in jaundice was investigated. It was probably related to serum cholesterol levels, but not to bilirubin, bile salts, vitamin A and alkaline phosphatase contents of blood. Skin sections showed swollen cutaneous nerve endings and increased number of nuclei with round cell infiltrations.<sup>15</sup>

**Amyloidosis:** Clinical features of a rare case of primary systemic amyloidosis were brought out. For specific diagnosis, methyl violet stain of skin sections and Van Geisson's stain of muscle sections were preferred.<sup>67</sup>



## VII. NEOPLASMS

The incidence of oral cancer was found to be 0.24% in Bombay and Bangalore. Other oral white lesions among the 10,000 individuals were leucoplakia in 1.55%, leucoderma in 1.66%, nicotine leucoplakia in 0.15%, submucous fibrosis in 0.18% and oral lichen planus in 0.02%.<sup>150</sup> The incidence of leucoplakia was higher in individuals having the mixed habits of panchewing and tobacco smoking than those with one or none of them.<sup>150</sup> Oestrogen therapy appeared harmful in oral cancer in males. Studies on vitamin B metabolism in oral cancer showed deficiencies of thiamine and riboflavin.<sup>184</sup>

The incidence of skin malignancy was 4.2% of 3083 malignant tumours recorded in a pathology registry and epithelioma accounted for 50% of these. Predisposing factors were trauma, frictions, burns and actinic rays in xeroderma pigmentosum. Basal cell carcinoma and malignant melanoma were frequent, and 80% of the latter were on the heels probably precipitated by trauma. Rare malignancies were skin secondaries from adenocarcinoma and sarcoma.<sup>179,48</sup> A report analysing 120 cases of basal cell carcinoma showed greater frequency in males in the third and fourth decades, and localization on the head and neck in 75% cases. Several histopathological patterns were described.<sup>2</sup>

Squamous cell cancer developing in sebaceous cysts is also reported. Some peculiar cancers in India are Kangree cancer of Kashmir, Dhoti cancer, epithelioma in burns and large fungating growth on heels in barefooted individuals, all of which may result from trauma, friction and irritation.<sup>118</sup>

The histochemical and electron microscopic study of malignant epithelioma showed the presence of altered collagen with increased acid-mucopolysaccharides, hydrogen bond dissociation, and molecular rearrangement.<sup>202</sup> These changes may be responsible for invasiveness of cancer. The dermal changes in keloids differed from those in carcinoma induced by radiation or burns. Mast cells were increased, probably due to fibroplasia. Hyalinization of the connective tissue with fibroid degeneration was present in cancer, but absent in keloides. Serum calcium was not present in tissues.<sup>201</sup> Qualitative and quantitative studies on amino acid contents of 10 keloids reflected their dermal origin.<sup>6</sup>

Rare neoplasms reported were three cases of dermatofibroma,<sup>117</sup> 11 cases of sweat gland tumors<sup>171</sup> and 8 cases of angioendothelioma.<sup>176</sup>

## VIII Venereal Diseases

### (A) *Epidemiology.*

An epidemiologic study of 1131 cases in an urban population showed that 22.7% had marital source of infection.<sup>209</sup> Another analysis of 1176 male cases showed 68.5% were married. The author comments that even though the unmarried adults may have a greater spirit of adventure, it is the married man who takes an opportunity and is better able to have extramarital contacts under the guise of marital status.<sup>207</sup> These studies bring out the importance of contact tracing even among

family circles of the patients. Psychological study of service men with venereal disease showed young age, low education, bachelorhood, marital disharmony, strict upbringing, a large family, defective sex education, curiosity about sex, uncertain religious faith as conducive factors for venereal disease.<sup>200</sup>

(B) *Treponematosi*s.

(i) Syphilis.

**Syphilis in infancy:** A large survey brought out many clinical and epidemiological aspects of the disease and the possibilities of controlling it.<sup>169</sup> Possibilities of non-sexual transmission of syphilis from family members in urban slum children was brought out in a report on 385 cases. Clinical features showed rarity of primary chancre and cutaneous or skeletal manifestations, but lesions on the mucocutaneous surfaces were frequently found.<sup>163</sup>

**Syphilis in pregnancy:** The incidence of seroreactivity among pregnant women was reported to vary from 8.3 to 13% which is unusually high. An analysis of 846 cases of congenital infections showed occurrence of disease in all the three trimesters which is also unusual. Adequate treatment of pregnant women with PAM and tetracycline was found effective in prevention of congenital syphilis.<sup>167, 168</sup> However, dental stigmata of congenital syphilis are not prevented by treatment.<sup>159</sup>

**Skeletal manifestations:** with typical bone pains, joint pains, hydrarthrosis and acute osteoperiostitis were reported within 12 weeks in 6% of 300 secondary syphilitics examined. Most of them had rash and lymphadenopathy. Response to penicillin was excellent.<sup>79</sup> Skeletal manifestations of late syphilis were studied in 88 cases and occurred after an average of 15.5 years in acquired and 14.5 years in congenital groups. The lesions were gummatous osteoperiostitis in nose (41.1%), hard palate (24%), and left tibia (17%), with occasional involvement of knees or ankles. Satisfactory response to treatment was obtained in 55% cases.<sup>80</sup>

**Parenchymatous syphilis** was rarely diagnosed. Hepatitis in one case each of early acquired and infantile syphilis was reported.<sup>155</sup> Gumma of kidney was extremely rare and recorded only twice in an autopsy survey of 36 years.<sup>178</sup> Gumma of spinal cord was also recorded only once as precocious tertiary lesion after inadequate treatment.<sup>158</sup>

**Neurosyphilis:** The incidence was reported to be 5% of syphilitics in Calcutta. Symptomatic syphilis accounted for 157 out of 161 cases. Three patients of neurosyphilis had late congenital syphilis. Early inadequate treatment did not prevent neurosyphilis. Seroreactivity in all except one and spinal fluid reactivity in 27% of cases out of 153 were reported. No case of reactive spinal fluid and non-reactive blood was seen. After treatment, maximum improvement occurred in meningeal group and optic atrophy did not recover. Combination of steroid with penicillin gave better results.<sup>82</sup> In a study from Armed Forces, combined therapy with bismuth and penicillin gave normalization of cerebrospinal fluid findings in 83.5% cases up to 93.6%.<sup>208</sup> The unpredictable prognosis of neurorelapse in few cases after penicillin therapy was brought out.<sup>154, 155</sup>

## (ii) Yaws :

The high incidence (two-third population) and high infectivity rate (20.54%) of yaws showing secondary and tertiary lesions in 51.72% cases was brought out in 3 studies conducted in Indo-Bhutan border and Madhya Pradesh areas.<sup>192, 187, 188</sup>

## (iii) Laboratory aspects.

Non-treponemal tests for syphilis: An evaluation of serological test performance with VDRL, Kahn and Minickie tests conducted in the Central Venereal Diseases Reference Laboratory, Madras, brought out great variations in the sensitivity and specificity of these tests in different laboratories.<sup>24</sup> Hence caution should be exercised in interpreting serological reports. In general, VDRL slide test showed superior performance in all stages of syphilis.<sup>137, 98, 191</sup> The VDRL and Wassermann's tests gave comparable results in cerebrospinal fluid.<sup>25</sup>

Treponemal tests: Treponema Pallidum Immune Adherence (TPIA) test had little advantage over VDRL test.<sup>27</sup> Although Treponema Pallidum Immobilization (TPI) and Fluorescent Treponemal Antibody (FTA) tests are more specific than Reiter Protein Complement Fixation (RPCF) test, RPCF test has adequate sensitivity and specificity. Because of its simplicity and low cost, this test is a suitable supplement to VDRL test to interpret Biological False Positive (BFP) reaction.<sup>29, 34</sup> These BFP reactions may be found in all serological procedures using non-treponemal antigens. But the high incidence of false positive reactions in leprosy was possibly due to inadequate verification with specific tests.<sup>26</sup>

(C) *Gonorrhoea.*

(i) In an adequately controlled study, a single intramuscular dose of 1.2 million units of penicillin was claimed to cure 95.9% of uncomplicated acute gonorrhoea in males,<sup>228</sup> while treatment with 0.6 MU of PAM showed treatment failure of 22.3% cases in another report.<sup>9</sup> Lincomycin is reported ineffective in gonorrhoea.<sup>298</sup>

(ii) Laboratory aspects: Diagnostic procedures have been reported to be improved by a direct fluorescent antibody (FA) staining technique,<sup>140</sup> culture of gonococcus in an economic egg-enriched selective medium<sup>30, 228, 28</sup> and a simple microprecipitation test<sup>32, 138, 35</sup> using a lipopolysaccharide antigen. The latter is associated with the virulence of gonococcus.<sup>131</sup>

Decreased sensitivity of gonococcus strains to penicillin was reported<sup>31</sup> and poses new problems of treatment in India, as in other countries.

(D) *Chancroids.*

Tetracycline was found effective in the treatment.<sup>208</sup>

(E) *Donovanosis.*

A monograph on Donovanosis brought out many features of this disease.<sup>151</sup> Several reports from south India show its incidence ranging from 1 to 6.3% of total VD cases. The incubation period varied from 1-4 weeks with a maximum of 6 months. Few cases had extragenital lesions and evidence of conjugal infection.<sup>164, 10, 165, 172, 180, 156, 123.</sup>

Streptomycin in 20-50 gms dosage, with an optimum of 20 gms given in 10 days, gave satisfactory results. Spontaneous cure may occur in some cases.<sup>122, 172, 190, 186</sup> Streptomycin resistant cases responded to broad spectrum antibiotics.<sup>184</sup>

Squamous cell carcinoma in relation to Donovanosis is rare. The incidence was 0.25% among 2000 patients.<sup>157</sup>

(F) *Non-gonococcal urethritis.*

In a study of 100 cases, trichomonas urethritis in the males was asymptomatic in 40%. A typical pattern of many epithelial cells in the urethral smear was claimed as diagnostic in the absence of finding parasites in males. Cultures may be helpful here. Eighty patients given flagyl (metramadazole) 200 mg. orally three times a day, for 7 days, followed up for 3 months, showed a cure rate of 91.3%<sup>8, 141</sup>

(G) *Lympho Granuloma Venereum (LGV).*

A monograph on LGV brought out many clinical features of this disease.<sup>153</sup> A local strain of LGV virus has been isolated from Madras and is used for Lygranum type antigens.<sup>33</sup>

## IX. ODDS AND ENDS

Health and sex after vasectomy were assayed in a large series of 655 cases. No change in the general health was noticed in 99.9% of cases after vasectomy. Sexual performance showed no change in 80.3%, and increased vigour was reported in 11.7% cases. In the remaining 32 cases, some diminution in either the desire or the frequency of act was seen, which may be a natural variation. Reanastomosis of the vas was desired by 21 operated cases and showed reappearance of sperms in the semen of 18, with 11 instances of successful impregnation,<sup>149</sup> showing the apparent reversibility and harmlessness of this procedure.

Genital tuberculosis was found in 39 (23.3%) out of 166 male patients having pulmonary tuberculosis. Seminal fluid culture was positive in 4 out of 14 cases.<sup>36</sup>

Both razor and electric shavings showed similar results. The skin denuded by shaving showed cut ends of hairs and fragments of epithelium composed of nucleated and non-nucleated cells.<sup>17</sup>

The sequential events of epithelialization were studied in small and shallow wounds. It was suggested that epithelialization is not merely a migration of cells from the hypertrophic epidermis, but a complex process.<sup>18</sup>

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Table I : The nature of skin and venereal diseases from hospital attendance in one year (1957-58).

	Bombay	Amritsar	Calcutta	Delhi	Vellore
1. Diseases of poor economy. Parasitic diseases: scabies, pediculosis, pyoderma fungous infections, leprosy, skin TB., and virus infections.	14,277 (47)	4,642 (42)	6,851 (50)	10,121 (57)	2,879 (57)
2. Social diseases (V.D.)	4,234 (14)	374 (4)	not supplied	2,602 (15)	786 (15)*
3. Allergy and eczema	3,096 (10)	2,236 (20)	3,883 (28)	2,150 (12)	367 (7)*
4. "The Troublesome Three" (lichen planus, psoriasis, chronic bullous eruptions)	336 (1)	365 (4)	1,227 (8)	1,254 (7)	110 (2)*
5. The rest	8,454 (28)	3,481 (30)	1,761 (14)	1,562 (8)	994 (19)*
Total	30,399	11,098	13,722	17,689	5,136

\* The figures in parenthesis are percentages. More than one hospital statistics are totalled in cities of Bombay and Delhi.

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Table II : Pathogenic dermatophytes recovered in India.

Sites of infection	Frequent	Rare
Skin	T. rubrum	T. simmi
	T. mentagrophytes	T. violaceum
	E. floccosum	M. gypseum.
Scalp	T. violaceum	K. ajelloi
	T. schoenellii	T. mentagrophytes
	T. tonsurans	T. rubrum
Nail	T. rubrum, T. violaceum,	M. gypseum
		E. floccosum and M. gypseum

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Table III : Causative agents of mycetoma reported in India.

Actinomycetoma	Maduromycetoma
Actinomyces israelii	Madurella mycetomi
Nocardia asteroides	„ grisea
„ brasiliensis	Allesheria boydii
Streptomyces pelletieri	Cephalosporium species
„ madurae	Leptosphaeria senegalensis
„ somaliensis	Phialophora jeanselmii
	Pyrenochaeta romeroi
	Glenospora semoni

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