Answers to Dermato-venereological Quiz on pages 128-129

1. The differential diagnosis includes lepromatous leprosy, cutaneous mycobacterial or fungal infection, scleromyxoedema, cutaneous lymphoma, chronic actinic dermatitis, and cutaneous drug eruption. Other potential differential diagnoses include acromegaly, cutaneous infiltrative or deposition disorders. In the current case, infiltration of the nose, infra-orbital regions, glabella and tumefactive nodules of the trunk and limb were suggestive of leonine facies and lepromatous leprosy.

2. There are dense diffuse and nodular cellular aggregates, composing of pale-staining tissue macrophages (i.e. histiocytes) and lymphocytes. The inflammatory infiltrates center mostly at the papillary and superficial part of reticular dermis, and occasionally at peri-adnexal and peri-vascular space. A Grenz zone is present.

   The dislodged stratum corneum represents tissue artefact. The epidermis is mildly atrophic and there is no epidermal dysplasia, spongiosis or interface dermatitis.

   The mid- to lower reticular dermis is otherwise unremarkable. There is no pigmentary incontinence, necrotising granuloma or Langerhans giant cell. Features of vasculitis, accumulation of dermal mucin, fibrosis or increased fibroblastic proliferation are absent. There is no atypical lymphoid infiltration or soft tissue neoplasm.

3. In the high-power view, there are histiocytes with foamy cytoplasm, termed Virchow cells. The foamy cytoplasm contains clumps of phagocytosed leprosy bacilli. These are the acid-fast bacilli which appear both intra- and extra-cellularly. These clumps are termed globi. Diffuse sheets of Virchow cells in a non-necrotising granulomatous infiltrate is suggestive of lepromatous leprosy. Acid-fast bacilli may be detected by histochemical staining.

4. Owing to the intrinsic difference in cell wall structure, *Mycobacterium leprae (M. leprae)* bacilli are less acid-fast. *M. leprae* are less capable of retaining red dye under Ziehl-Neelsen stain. The Wade-Fite stain is a modification of the staining procedure which minimises the exposure of the mycolic acid component to organic solvent, thus retaining acid-fastness, enabling detection of *M. leprae*.

5. The clinico-pathological diagnosis is lepromatous leprosy. The workup should take into account the patients' psychosocial and culture aspects. Significant morbidities and physical disabilities occur if leprosy is left untreated.

   Lepromatous leprosy is infectious. The exact mode of transmission has not been fully established, although it is speculated to be due to prolonged close contact between the genetically predisposed individuals and the nasal secretions of the untreated individuals suffering from multibacillary leprosy.

   With multi-drug therapy, the condition is highly curable. According to World Health Organization, evidence-based treatment of multibacillary leprosy consists of i. Rifampicin (600 mg once a month), ii. Dapsone: 100 mg daily and iii Clofazimine (300 mg once a month and 50 mg daily). Treatment duration is 12 months.

   Apart from pharmacotherapy, education, contact tracing, monitoring of treatment side effects, management of disease-related complications and rehabilitation are equally important. With timely treatment, deformities can be avoided.