Autoimmune Blistering Diseases (AIBDs)

Prelims: *Current events of national and international importance | Health*

Why in News?

A joint study by Punjabi University, Patiala, and PGIMER, Chandigarh, has developed artificial intelligence-based methods to aid diagnosis of Autoimmune Blistering Diseases (AIBDs).

- Autoimmune blistering disorders (AIBDs) are a ***rare group of conditions*** where the immune system mistakenly ***attacks proteins vital for holding skin layers together.***
- This causes painful blisters and erosions on the skin and mucous membranes.
- While chronic, they can often be managed with immunosuppressive therapies.

Key Categories & Characteristics

- **Pemphigus Disorders -** Autoantibodies attack desmosomal proteins (cell-to-cell connections).
- This causes soft, flaccid blisters that easily rupture and leave painful erosions, often starting in the mouth before spreading to the skin.
- **Pemphigoid Disorders -** Autoantibodies target the basement membrane zone (the connection between the epidermis and dermis).
- This forms large, tense, highly itchy blisters that are typically deep-seated and do not rupture as easily.
- Bullous pemphigoid is the most common variant, predominantly affecting older adults.
- **Dermatitis Herpetiformis (DH) -** A cutaneous manifestation strongly linked to celiac disease (gluten sensitivity). It causes intensely itchy, clustered vesicles usually found on the elbows, knees, and buttocks.
- **Common Symptoms**
  - Fluid-filled blisters (bullae or vesicles).
  - Raw, weeping, or crusted erosions after blisters break open.

    - Painful lesions in the mouth, eyes, or throat (common in mucous membrane pemphigoid).
    - Severe itching or burning sensations.
- **Diagnosis**
    - Because clinical presentation alone can be misleading, specialized testing is usually required.
    - The gold standard diagnostic methods include:
        - **Direct Immunofluorescence (DIF)-** Examines a perilesional skin biopsy to detect autoantibody deposits.
        - **Indirect Immunofluorescence (IIF) & ELISA-** Tests blood serum to identify and measure circulating antibodies against specific skin proteins.
- **Treatment -** Treatments aim to heal blisters, prevent infections, and suppress the autoimmune response.
    - **Corticosteroids -** Often the first-line treatment, used either topically (for mild cases) or systemically (for severe disease) to quickly reduce inflammation.
    - **Immunosuppressants:** Drugs such as azathioprine, mycophenolate mofetil, or rituximab are frequently used as steroid-sparing agents to maintain long-term remission.
    - **Targeted Therapies:** Emerging treatments and specialized biologic therapies target specific autoantibodies.
    - **Dietary Adjustments:** For dermatitis herpetiformis, a strict, lifelong gluten-free diet is usually required to clear the rash.

Reference

Times of India | Autoimmune Blistering Diseases (AIBDs)

SHANKAR IAS PARLIAMENT
Information is Empowering