A CASE OF TOXIC EPIDERMAL NECROLYSIS BEING TREATED WITH HOMOEOPATHY

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Abstract - Toxic epidermal necrolysis is a life-threatening, typically drug-induced, mucocutaneous disease. It has a high mortality rate hence timely diagnosis and withdrawing the drug responsible with symptomatic management is vital to save the patient. The Scope of Conventional Medicine is less when Toxic Epidermal Necrolysis involves more than 30% of body surface area. But Homoeopathy can do miracles even in scopeless cases. A case cured with Homoeopathic medicine is documented. Here Homoeopathy prevented mortality and helped the patient with faster recovery.

Case Summary - This is the case of a 56 years old female who came with the complaints of eruptions all over the body with peeling of skin, pustular discharge, with burning and stinging pain all over body, after taking steroids for the complaints of Psoriasis since three days. The case presented to me improved with homoeopathy based on acute totality. The case was documented with photographs.

Keywords - Homoeopathy, Steven Johnson Syndrome, Toxic Epidermal Necrolysis, Psoriasis, Erythema Multiforme, Drug Allergy, Type IV Hypersensitivity.

INTRODUCTION - Toxic Epidermal Necrolysis

Toxic Epidermal Necrolysis is a type of Severe Skin Reaction. The spectrum of disease includes Steven Johnson Syndrome and Toxic Epidermal Necrolysis. Steven Johnson syndrome is less severe when compared to Toxic Epidermal Necrolysis.

It looks very similar to Erythema Multiforme.

Initial symptoms include Fever, Flu like symptoms later the patient manifests with blisters in the skin which begin to peel leaves painful raw surfaces. There may be involvement of Mucus Membranes of Mouth.

In both the conditions Type four Hypersensitivity reactions are seen. Both the conditions are included with drug reaction with Eosinophilia and Systemic Symptoms, Acute Generalized Exanthematous Pustulosis (AGEP) and Severe Cutaneous Adverse Reactions (SCARs).

Causes:

Drugs:

Drug Reactions are the major cause for 80 - 95% of the cases who suffer from Toxic Epidermal Necrolysis. More often seen in Drugs with long half lives to even a chemically similar related drug with a short life. (Half Life - Time that half of delivered dose remains circulating in the body). The group of drugs include

- Antibiotics
    - Sulfonamides (Sulfamethoxazole, Sulfadiazine, Sulfapyridine)
    - Beta-lactams (Cephalosporins, Penicillins, Carbapenems)
- Nonsteroidal Anti-Inflammatory Drugs (Oxicams)
- Allopurinol (given to control Gout and to prevent Renal Calculi)
- Antimetabolites (Methotrexate)
- Antiretroviral drugs (Nevirapine - Anti HIV Drug)
- Corticosteroids
- Anxiolytics (Chlormezanone)
- Anticonvulsants (Phenobarbital, Phenytoin, Carbamazepine, Lamotrigine, and Valproic acid).

Infections:

Common after infections caused by Mycoplasma Pneumoniae and Dengue Virus.

Toxic Epidermal Necrolysis develops after use of Contrast agents in imaging studies as well as transplantation of bone marrow or organs have also been linked.

Risk Factors:

- Age - Older Adults are more prone
- Gender - Females are more prone to suffer when compared to Males
- Weak Immune System - as seen in Cancer and HIV
- AIDS - 1000 times more risk when compared to normal individuals
- Genetics - HLA-B*1502 Alleles are at more risk to suffer

Pathogenesis:

The mechanism is complex and still not known.Drug-specific CD8+ cytotoxic lymphocytes commonly detected in fluids coming from blisters. They have some natural killer cell activity and can probably kill keratinocytes by direct contact. Cytokines implicated include perforin/granzyme, granulysin, Fas-L and tumour necrosis factor alpha (TNFα).

There are probably two major pathways involved:

- Fas-Fas ligand pathway of apoptosis - a form of tumour necrosis factor, is secreted by blood lymphocytes and can bind to the Fas ‘death’ receptor expressed by keratinocytes.
- Granule-mediated exocytosis via Perforin and granzyme B resulting in cytotoxicity (cell death).Both granules are detected in blister fluid, and it has been suggested that levels may be associated with severity of the disease.

Signs and Symptoms:

People suffer from flu-like symptoms (cough, running nose, feverish feeling, lack of appetite and malaise) before onset of typical symptoms. Later extensive skin involvement with redness, necrosis and detachment of epidermal layer of skin and mucosa.

Skin Lesions:

- Macules - flat, red, diffuse or purple spots.
- Diffuse erythema
- Blisters - which are flaccid (not tense). Blisters emerge to form sheets of skin detachment, exposing red oozing dermis.
- Blisters and erosions appear when skin rubbed gently.
- The Nikolsky sign - a separation of the papillary dermis from the basal layer upon gentle lateral pressure
- Asboe-Hansen sign - a lateral extension of bullae with pressure

Mucus Membrane Lesions:

- Eye - Conjunctivitis, Corneal Ulceration, Anterior Uveitis, Panophthalmitis are seen
- Lips and Mouth - Cheilitis, Stomatitis, Mouth Ulcer
- Pharynx and Oesophagus involvement - eating difficulty seen
- Upper Respiratory Tract - cough, Respiratory Distress
- Genital Area and Urinary Tract - Erosions and Ulcers
- GIT - Diarrhoea

Histology:

Scattered Necrotic Kertinocytes seen in early stages. Full thickness epidermal necrosis is visualized with a subepidermal split and inflammatory infiltrates in papillary dermis seen in advanced stages. Epidermal necrosis is sensitive finding but non specific finding for Toxic Epidermal Necrolysis.

Diagnosis:

- Skin Biopsy
- Nikolsky sign
- Asboe-Hansen sign

Complications:

Acute Complications:

- ARDS
- GIt - Ulceration, Perforation, Intussusception
- Thromboembolism, Disseminated Intravascular Coagulation
- Dehydration
- Sepsis
- Multi Organ Failure

Long term effects includes

- Skin Discoloration and Scarring
- Dry Skin and Mucous membrane
- Hair Loss and Loss of Nail
- Urination troubles
- Impaired Taste
- Genital abnormality
- Eye and Vision Changes - Vision loss, Ectropion, Entropion, Symblephron, Trichiasis, Synechiae, Pterygium
- Joint Contractures

Diagnosis:

If less than 10% of skin is involved then it is Steven Johnson Syndrome.

If more than 30% of skin is involved it is Toxic Epidermal Necrolysis.

Treatment:

SJS is a dermatological emergency condition.

The Patient needs to be treated similar to a patient suffering from a Burn. Supportive treatments like IV Fluids, Parenteral Feeding, and Analgesic mouthwash if a patient has oral ulcers.

Corticosteroids, Ciclosporin, Cyclophosphamide, Plasmapheresis, Pentoxifylline, Acetylcysteine, Ulinastatin, Infliximab, and Granulocyte colony-stimulating factors are used as adjuvant therapy.

Intravenous Immunoglobulin has benefited some patients in improving symptoms and lessened the period of suffering.

Patients should be kept in warm environments with topical anaesthetic application, intravenous analgesics and antiseptic medicines.

Plasmapheresis is also found to be beneficiary.

Since there are ophthalmologic reactions taking place there might be possibility for Corneal Scarring leading to impairment of visions and other ocular problems. Hence Ophthalmologist opinion has to be taken and followed. Those with chronic ocular surface disease caused by SJS may find some improvement with PROSE treatment (prosthetic replacement of the ocular surface ecosystem treatment).

Prognosis:

The Mortality rate seen in Toxic Epidermal Necrolysis is 25 - 30%. Prognosis is good if the drug responsible for the suffering is withdrawn at the earliest. Sepsis is more common after loss of skin which is the leading cause for death. Death is also caused by Infection, Respiratory Distress and Pneumonia.

Severity Score:

The "Severity of Illness Score for Toxic Epidermal Necrolysis" (SCORTEN) is a scoring system developed to assess the severity of TEN and predict mortality in patients with acute TEN.

One point is given for each of the following factors:

- age more than 40years
- heart rate more than 120 beats/minute
- Suffering with Cancer
- separation of epidermis on more than ten percent of body surface area (BSA) on day one.
- BUN >28 mg/dL
- Glucose >252 mg/dL (14 mmol/L)
- Bicarbonate <20mEq/L

Score and Mortality Rate:

- 0 - 1: 3.2% mortality
- 2: 12.2% mortality
- 3: 35.3% mortality
- 4: 58.3% mortality
- ≥5: 90% mortality

Of note, this scoring system is most valuable when used on the first and third day of hospitalization, and it may underestimate mortality in patients with respiratory symptoms.[1]

Case Report - 56-year-old female came with the complaints of eruptions all over body with peeling of skin, pustular discharge, with burning and stinging pain all over body since three days. She also had cracks in tongue, redness of eyes with lachrymation, involuntary stool and burning urination. She has had a history of Psoriasis for the past three years and took an alternative system of treatment. Before two months, she started taking allopathic medicines after consulting a General Physician who prescribed Steroids and Antibiotics. Since then she had burning skin all over body which was of gradual onset later ended in sudden flaring up of eruptions all over body. Since it was Covid Lockdown in May 2020 and moreover the patient was unwilling to get investigated, no investigations being done. A Dermatologist opinion being obtained based on photographs where he gave opinion that she is suffering from Steven Johnson Syndrome or Toxic Epidermal Necrolysis.

Past History - Nothing Significant
Past Medical history - Nothing Significant
Family history - Nothing Significant
Personal history:
Appetite - Decreased
Thirst - Thirst less with dryness of tongue
Bowel / Bladder Habits - involuntary stool and burning micturition
Sleep - disturbed from burning pain all over body
Thermal State - chilly doesn't like fan.

On Observation:

She was Moaning with pains and had fear of being touched. Her acute mental state was that she felt as though there was no one to help her or to take care of her. She felt she was unfortunate hence she is suffering with these complaints.

Physical examination:

The patient is Conscious, well oriented with time, place and person.
Built and nourishment: moderately built and moderately nourished.
No signs of Pallor, Cyanosis, Clubbing, Icterus, Lymphadenopathy.
Bilateral pitting pedal oedema present.
Temperature – Afebrile
Respiratory Rate – 18 breaths per minute.
Blood pressure: not elicited from fear of touch.
Pulse rate: 90 beats/min

Systemic Examination:

Respiratory system – vesicular breath sound heard all over lung field, no added sounds.
CVS – S1S2 heard normally all four cardiac areas and no Murmurs.

Repertorial Totality:

Using Synthesis Repertory the case was being Repertorised.

1. Mind - Delusion - neglected he or she is neglected
2. Mind - Delusion - Unfortunate, he is
3. Mind - Fear - touched, of being
4. Mind - Moaning - Pain from
5. Skin - Eruptions - Psoriasis
6. Skin - Pain - Stinging - Burning

Repertorisation Result:

1. Sepia - 7/5
2. Lycopodium - 7/4
3. Staphy - 7/4
4. Thuja - 7/4
5. Beladonna - 6/4
6. Pulsatilla - 6/4
7. Phosphorus - 5/4

Since the patient was chilly and Sepia became the first remedy in Repertorisation, Sepia being selected and prescribed.

General Management - to give liquid food, Oral Rehydration Solution and Fruit juices for three days.

First prescription on - 26th May 2020, Sepia 0/1 being administered in water dose three hourly.

Follow up:

On 27th May 2020 - Appetite was good, Thirst improved and Sleep was better, but involuntary stool present. Burning pain was better, but eye discharges remained the same, pustular discharges present with peeling of skin – Sepia 0/2 in water dose three hourly was prescribed.

On 28th May 2020 - Appetite was good, Thirst improved, Sleep was good and involuntary stool was better. Burning pain better, eye discharges better, pustular discharges present but reduced with peeling of skin – Sepia 0/2 in water dose three hourly was prescribed.

On 29th May 2020 - Generals were good. Burning pain was better. Eye discharges better, Pustular Eruptions better with peeling of skin present – Sepia 0/3 in water dose four hourly

On 31st May 2020 - Generals good, Burning Pain better, no discharges from eye. Pustular Eruptions better with peeling of skin present – Sepia 0/3 in water dose four hourly

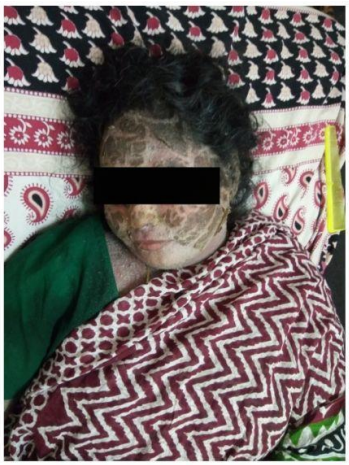
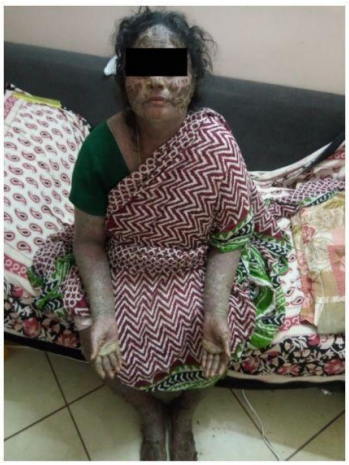
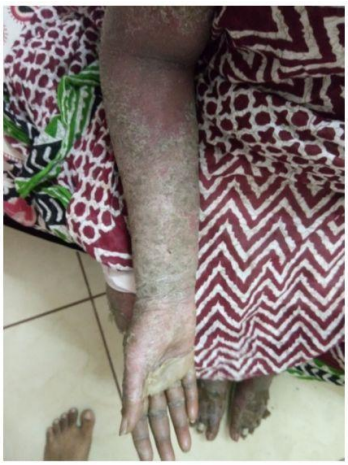
On 1st June 2020 - Generals good, Burning Pain better, no discharges from eye. Pustular Eruptions better with peeling of skin present, no pedal oedema – Sepia 0/4 in water dose four hourly

On 3rd June 2020 - Generals good, Burning Pain better, no discharges from eye. Pustular Eruptions better with shedding of skin and formation of new skin – Sepia 0/5 in water dose four hourly

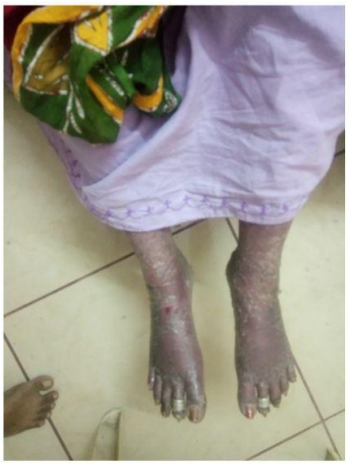
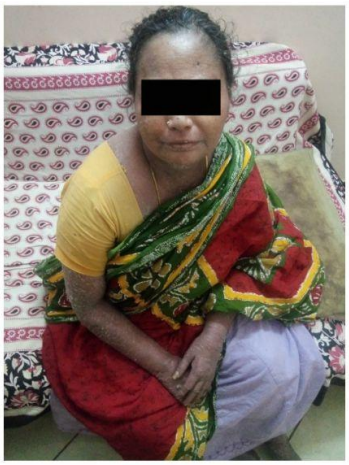
On 5th June 2020 - Generals good, Burning Pain better, no discharges from eye. Pustular Eruptions better with shedding of skin and formation of new skin – Sepia 0/6 in water dose four hourly

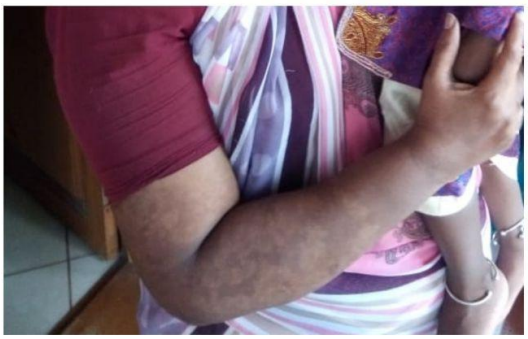
On 6th June 2020 - Generals good, Burning Pain better, no discharges from eye. No pustular eruptions, new skin formation seen to develop all over body – Sepia 0/7 in water dose thrice a day. And adviced to stop after two days.

BEFORE TREATMENT

DURING TREATMENT

AFTER TREATMENT

Result - Overall the patient improved generally and symptomatically.

Discussion - This case report highlights the importance of Similimum as well as efficacy of LM Potency in ascending doses which helps us in arriving faster recovery with lesser aggravation. LM potency being the latest invention of our founder Dr.Samuel Hahnemann, its efficacy is proved in this case. As it is an acute case frequent repetition of medicines has to be done based on the condition of the patient. The case shows Homoeopathy does

miracles even in life threatening conditions. The complications like Dehydration, Sepsis, Pneumonia and Multi Organ Failure is prevented.

Conclusion - Based on Cardinal Principles of Homoeopathy, any challenging case can be treated by application of these principles. Selection of totality, arriving at similimum, selection of medicine with appropriate Potency and repetition are vital in treating a case.

Declaration of patient consent - Patient gave her consent to use her photographs and other clinical information to publish in Journal.

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