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DRUG INDUCED TOXIC EPIDERMAL NECROLYSIS – A CASE REPORT AND MANAGEMENT OF TEN

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ABSTRACT

Toxic Epidermal Necrolysis (TEN) is a severe hypersensitivity reaction to drugs affecting skin and mucous membrane leading to epidermal detachment. TEN is a potentially fatal mucocutaneous reaction with a mortality rate up to 40%. Here I present a case of 23year old female patient pursuing M.sc biotech referred to multispecialty hospital in Coimbatore from Salem & primary treatment was unknown as well as origin of fever & upper respiratory syndrome treated by gentamycin, piroxicam, cefaperazone sulbactam and roxithromycin in Magil hospital and Saravana hospital. Throat pain, right side tonsillitis enlarged, severe mucocutaneous lesions, conjunctival congestion, skin damage started & developing. The patient was suspected to have diphtheria, tonsillitis, SLE/Behcet's, and finally TEN was identified. This condition can be fatal if untreated /delayed recognition. Immediate recognition and appropriate medical care prevent succumbing.

INTRODUCTION

Toxic epidermal necrolysis (TEN) or Steven Johnson's syndrome is a severe mucocutaneous disorder characterized by skin flakes layer removal with involment of 40%of body surface area[4]. The main cause of TEN in adult is drugs, here caused by piroxicam and other antibiotics like gentamycin, roxithromycin and cefaperazone sulbactam. Her condition was early recognized in multispecialty hospital and treated.

CASE REPORT

A 23-year-old female patient was admitted to emergency department in multispecialty hospital Coimbatore on 23/2/2020 with complaints of Eye sight problem (purulent discharge from eye), skin erythema multiforme and multiple mucocutaneous lesions, suprapubic tenderness, aphthous ulcer, burning micturition, purulent Genital discharge and membranous tonsillitis. she had fever from13/2/2020 onwards but she went for treatment only by 18/2/2020.The above reactions are resulted from treating fever of unknown origin and upper respiratory syndrome by previous treatment, which include Inj.gentalab (gentamycin), Inj.doloforce (piroxicam) , Tab.roxid (150mg 6 tablets of roxithromycin) , Tab.paramet (6 tablets of paracetamol & metoclopramide), cap.benadryl(25mg 3 capsules of diphenhydramine) on 18/2/2020 by magil hospital,salemand on 20/2/2020 shifted to saravana hospital there they treated with Inj.fytobact 1.5g (BD) , Duolin respules 3ml (3 dose of levosalbutamol & ipratropium bromide) Budecort respules (3dose of 0.5mg resp) Tab.dolo 650mg (BD) ,Syp Viscodyne (levosalbutamol, ambroxolHcl, guaiphenesin, terbutaline sulfate & menthol phenyl ephedrine Hcl) NS -600ml/day, RL-500ml/day still her fever was not subsided .

RESULTS

Drugs / dose / route / freq	Time	23/1	24/1	25/1	26/1	27/1	28/1	29/1	30/1
Inj. Pantocid 40mg/IV/OD	6am	Emr	✓	✓	✓	✓	✓	✓	✓
Inj. Esemet 8mg/ IV/ TID	6am 2pm 10pm	- - Emr	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
Inj. Fevastin 600mg/ IV/ SOS									
Tab . Azithromycin 1g/ oral/OD	9am	- Emr	Stop						
Ofloxacin eye drops 2-2-2/ instill/ TID	6am 2pm 10pm	- - Emr	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
Syp.mucaine gel 2tsp / oral/ Q4H	2am 6am 10am 2pm 6pm 10pm	- - - - - -	- - - ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ Freq Changed .	

Drugs / dose / route / freq	Time	23/1	24/1	25/1	26/1	27/1	28/1	29/1	30/1
Tess ointment Oral cavity / OD	6am	-	- 9.30✓	✓	✓	✓	✓	✓	✓
Quadrajel ointment Oral cavity/ OD	9am	-	- 9.30pm✓	✓	✓	✓	✓	✓	-
Clonate F cream Bodily/ BD	6am 6pm	- -	- 9.30✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	- -
Tab. Colchicine 0.5/ oral / BD	9am 9pm	- -	- -	- ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	- -
Genteal eye drops 2drops/instill/ 6times a day	12am 4am 8am 12pm 4pm 8pm	- - - - - -	- - - - - -	- - - ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	- - - discharge
Eye drops FML 2drops/ instill/TID	10am 3pm 10pm	- - -	- - -	- ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	- discharge

Drugs / dose / route / freq	Time	25/1	26/1	27/1	28/1	29/1	30/1
Genteal eye gel Inner the eye /BD	9am 9pm	- ✓4.30pm ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ - discharge
Chlorocol H eye ointment Over lids/BD	9am 9pm	- ✓	- ✓	✓ ✓	✓ ✓	✓ ✓	✓
Inj. Dexa 4mg/IV/ BD	6am 6pm	- ✓	✓ ✓	✓ ✓	✓ ✓	✓ -	Stopped On 29/1
Tab. Ivermectin 12mg/ oral / OD	10.45am	-	-	-	-	✓	
Tab. Omnacortil 30mg/ oral / OD	9am	-	-	-	-	6.30pm✓	✓
Syp . Mucaine gel 2tsp / oral / TID	2am 12pm 8pm	-	-	-	-	-	- ✓

Discharge summary

Medicine	Dosage	Morning	Afternoon	Evening	Night	A/B Food	Duration
Tab. Omnacortil	30mg	1	0	0	0	AF	1week
Tab. Nexpro RD	20mg	1	0	0	0	AF	1week
Tab. Tayo	-	1	0	0	0	AF	1week
Tab. Bilagra	20mg	0	0	0	1	AF	1week
Syp. Chericof LS		2tsp	2tsp	0	2tsp	-	1bottle
Quadrajel & TESS		FOR	LOCAL	APPLICATION			
Clonate F cream		FOR	LOCAL	APPLICATION			

Patient discharged with hemodynamically stable in condition , tolerating oral feeds well and normal diet is encouraged.
After 1 week review with CBC ,cr,

On 21/2/2020 treated with Betadine gargle, Tab. Azee-500mg (Azithromycin) & Sumo-L 100ml IVF (paracetamol 1000mg/100ml). In hospital recognized the condition as soon as arrived, they started the primary treatment with the favor of dermatologist and Infectious disease physician. For diagnosing purpose, the advised laboratory parameters are complete blood count, skin biopsy- HPE (holoprosencephaly)sample size of grain &DIF (direct immunofluorescence) Herpes simplex virus type I & II, IGg & IGm serum, ANCA (anti-nuclear neutrophil cytoplasmic antibodies), Anti-myeloperoxidase (Anti-MPO), Anti- peroxidase (anti-PR3), urine culture test and blood culture test. Skin biopsy reports were awaited and all the other reports arrived as soon as the treatment regimen was designed and the patient was recovered from the deadly disease (TEN). The medical care providers worked as a team and gave an exemplary result and management strategy was admirable. Ophthalmologist, dermatologist and Infectious disease physician team work and other staff nurses played an accompanied role. Patient discharged with excellent improvement of lesions & to alleviate pain.

Mainly systemic corticosteroids such as dexamethasone (Inj.Dexa-4mg/BD) is been administered, other supportive care treatment such as ophthalmic drops and topical ointments and local anesthetic's in syrups and oral cavity gels for reducing the pain is been administered. The patient discharged with exemplary health advance. Topical, systemic and ophthalmic corticosteroids played an advanced role in TEN adult female therapies. The admirable therapy regimen was proved in this case. And other supportive care such as analgesic and antibiotics is been carried out along with corticosteroids. Fluid electrolyte therapy also provided for hydration NS and RL was administered to alleviate the acidosis and alkalosis condition.

DISCUSSION

On 23/2/2020, the suspicion diagnosis by health care provider are with the symptomatic complaints ,throat pain with the right side tonsillitis enlargement (diphtheria tonsillitis), polyarthralgia , coated tongue and erythema multiforme(SLE), oropharynx, aphthous ulcer ,skin and genitalia lesions (Behcet's syndrome), previous hospitalization history of primary illness and medication history shows the appropriate diagnosis of toxic epidermal necrolysis and its further confirmed by the laboratory investigation reports by neglecting suspicion of infection and autoimmune origin . Mainly piroxicam, roxithromycin, cefeperazone sulbactam & gentamycin sulfate involved in the toxic epidermal necrolysis condition of serious epidermal detachment with purulent pus discharge from eyes & genitalia and skin nikolsky's sign been aggravated. The TEN is mainly caused by sulphonamides and certain

NSAID'S (piroxicam)[3]. As a pharmacist intervention the Sulphur containing compounds mainly pretends to cause more serious reactions [1]. In each and every oral ointment like Tess (triamcinolone)& Quadrajel ointments (lidocaine, chlorhexidine, gluconate & metronidazole) local anesthetic agents were used to alleviate the pain, polyarthralgia condition will get aggravated in long term use of pantoprazole and corticosteroids, so in the discharge it was changed to esomeprazole [2]. Tab. Tayo (calcium &cholecalciferol) for strengthening the bones and for tensile strength.

CONCLUSION

The prodrome of fever & upper respiratory syndrome the primary treatment typically produced serious cytotoxic skin reaction along with various mucocutaneous lesions such as erythema multiforme, aphthous ulcer, throat pain, pustular skin lesions and conjunctival congestion etc.…, and the positive history of drug exposure should alert the physician to the possibility of TEN or SJS. TEN must be confirmed with skin biopsy for histologic and immunofluorescence examinations. Mainly mucocutaneous lesions refer to TEN, if patient not developed as such the physician should go for other possible diagnosis. Mortality rate is high due to various affected body surface area, fluid loss, electrolyte imbalance& secondary infections. The case here I discussed how the management of disease was exemplary and the patient recovered as soon as the diagnosis by the genuine investigation from the previous medication history and with the patient complaints. Patient discharged with minor scars of the lesions and well supported for oral feeds.

Authors' contributions: All authors have equally contributed for making this case report to be successful.

Conflicts of interest: None.

REFERENCES:

1. Shu Xu, carol A. rouzer, and Lawrence J. marnett. oxicams, a class of NSAIDs and beyond www.ncbi.nlm.nih.gov
2. Lenore Buckley, Gordon Guyatt, Howard A. Fink, Michael Cannon, Jennifer Grossman, Karen E. Hansen, Mary Beth Humphrey, Nancy E. Lane, Marina Magarey, Marc Miller, Lake Morrison, Madhumathi Rao, Angela Byun Robinson, Sumona Saha, Susan Wolver, Raveendhara R. Bannuru, Elizaveta vaysbrot, Mikala osani, Marat Turgunbaev, Amy S. Miller, and Timothy McAlindon , 2017 American college of rheumatology guideline for the prevention and treatment of glucocorticoid-Induced Osteoporosishttps://www.rheumatology.org
3. Lexicomp online login steven - johnson's syndrome – toxic epidermal necrolysis (patient disease and procedure)https://www.wolterskluwercdi.com
4. Lavanya J, et al . piroxicam induced - Toxic epidermal necrolysis Int.J.Curr.Microbiol.App.Sci (2015) 4(6): 903-907 http://www.ijcmas.com