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SEASONAL MYASTHENIA: NEUROPARALYSIS DUE TO SNAKE BITE

Medical Science

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ABSTRACT

Snakebites Remain A Public Health Problem Especially In Rural Areas. Snakebite Is Classified By The Who As A Neglected Tropical Disease. Neurotoxicity Is A Key Feature Of Some Envenomings, And There Are Many Unanswered Questions Regarding It. Acute Neuromuscular Paralysis Is The Main Type Of Neurotoxicity And Is An Important Cause Of Morbidity And Mortality Related To It. Mechanical Ventilation, Intensive Care, Antivenom Treatment, Other Ancillary Care, And Prolonged Hospital Stays All Contribute To A Significant Cost Of Provision Of Care. Neurotoxicity From Elapid Bite May Masquerade As Early Morning Neuroparalytic Syndrome (emns) And Diagnosis At The Initial Stage Is Challanging As These Patientsseldom Have Bite Marks Or History Of Being Bitten. We Are Reporting A Case Who Presented In The Emergency With Ptosis And Respiratory Depression And Absent Gag Reflexes, Mimicking Myaesthenia Like Symptoms With No Obvious Flang Marks On Body . After Ruling Out Other Causes Of Similar Clinical Presentations And Based On A Positive Neostigmine Challenge Test ,patient Was Empirically Treated With A Standard Asv Regimen And Supportive Care To Which The Patient Responded Well.

KEYWORDS

Snake Bite; Pblic Health Issue;neurotoxicity; Diagnosis; Anti Snake Venom

INTRODUCTION

In India , More Than 200 Species Of Snakes Have Been Identified But Only 52 Are Poisonous; The Common Krait(bungarus Caerulus), Indian Cobra(naja Naja), Russels"s Viper (daboia Russelii), And Saw Sealed Viper (echis Carinatus) Are The Most Poisonous. (1)2(2)

The Toxic Effect Of Snake Venom Results From Both The Protein And The Non Protein Component. It Is Further Complicated By The Inflammatory Response Of The Victim's Body. Phospholipase A2 Is Present In The Venom Of All Families Of Poisonous Snakes And It Is The Enzyme That Has Been Most Extensively Studied. It Inhibits Electron Transfer At Cytochrome C Level And Renders Mitochondrial Bound Enzymes Soluble. It Damages Rbcs,leucocytes, Platelets, Skeletal Muscle, Vascular Endothelium, Peripheral Nerve Endings And Myonueral Junction.(4) Alpha Neurotoxins Bind To Acetylcholine Receptors At The Motor End Plate, Whereas Beta Neurotoxins First Cause Release Of Ach At The Nerve Endings At The Myoneural Junction And Then Damage The Endings, Preventing Further Release Of Transmitter.(3) All This Leads To A Flaccid Paralysis Of The Victim.

The Common Serious Envenoming Is Neurotoxicity Which Is Characterised By Ptosis, External Opthalmoplegia, Dysphagia, Dysphonia,weakness Of Facial Muscles,broken Neck Sign, Loss Of Tendon Jerks And Respiratory Paralysis.(5) An Attempt Has Been Made In This Study To Describe Clinical Presentation Of A Patient With A Suspected Snake Bite Who Presented With Neurotoxic Features.

CASE REPORT

An 11 Year Old Female Presented To The Emergency Department Of The Hospital In The Morning Hours With The History Of Sudden Onset Difficulty In Talking, Walking , Opening Of Eyes And Difficulty In Degluttition Followed By Unconciousness For 3 Hours Duration. Her Oxygen Saturation Was 70% With Oxygen Support At The Time Of Presentation.

As Reported By Her Attendent(mother), She Went Off To Sleep At Night And In The Midnight , She Complained Of Pain In The Abdomen And Dyspnoea. She Got Up To Fetch Water In The Kitchen But Experienced Weakness In Both The Lowe Limbs.

Then , The Parents Took Her To A Local Hospital Where She Was Reffered To A Higher Centre For Management.

On Physical Examination, The Patent Was Unconcious, Disoriented To Time, Place And Person , Unresponsive To Deep Pain Stimulation. She Was Cyanotic And Her Glasgow Coma Scale Was 6/15. Her Blood Pressure Was 100/50, Hr- 116/min; Respirations Were Depressed. Pallor, Icterus, Clubbing Edema And Lymphadenopathy Were Absent. On Systemic Examination, Cardiovascular And Abdominal Examination Were Normal. Cns Examination Showed Generalised Hypotonicity. Therefore, Power And Tone Could Not Be Assessed Due To Her Unconciousness. Ptosis Was Remarkable And Light Reflex Was Present.

The Patient Was Intubated Immediatedly Withiut Any Delay And Put On Mechanical Ventilator On Simv Mode Due To Poor Respiratory Efforts And Dipping Saturation. Further, She Was Investigated For Cbc, Lft,rft, Ct Scanhead And Csf Examination.

All Her Reports Were Normal Except For Esr That Was 50 Mm In The 1st Hour. The Patient Was Managed Symptomatically With Fluids And Antibiotics But The Patient Did Not Show Any Improvement. The Following Day, Again A Thorough Physical Exam Was Done . Her Neurological Exam Revelaed Worsening B/l Drooping Of Eyelids. There Were Lots Of Oral Secretions And Aspirate For Which Suctioning Was Done Continuously. This Suggested Us Suspected Snake Bite Poisoning. Thereby, Administration Of 5 Vials Of Anti Snake Venom Diluted In 500 Ml Of Ns After Test Dose (sensitivity Testing) Was Done. Another Dose Of Antisnake Venom Was Administered In The Form Of 5 Vials After 6 Hours , Followed By 5 More Vials After 12 Hours.injection Myopyrolate I/v Was Also Administered @ 5 Ml/hr Slowly 8 Hourly For 3 Days.

On Forthcoming Days, Her Symptoms Got Improved To A Much Greater Extent. The Patient Was Extubated And All Her Neuroparalytic Signs And Symptoms Got Reversed. This Aptient Of Snake Bite Had Fairly Stable Icu Stay For A Week And Was Advised Physiotherapy For Residual Weakness.

DISCUSSION

Snake Bite Is An Important Medical Emergency And Cause Of Hospital Admission. Antivenom Is The Only Effective Antidote For Snake Envenomation. Asv Is Most Effective When Administered Early Enough To Neutralise Venom In The Circulation Before It Reaches The Target Site. However , There Is No Universal Concesus On The Optimal Dose And Protocol Of Its Administration.

CONCLUSION

Even In The Absence Of Any Evident Flang Mark Or History Of Snake Bite, Cases Presenting With Sudden Onset Of Neurological Symptoms

Especially Descending Paralysis Such As Ptosis, Respiratory Paralysis , Pain Abdomen And Then Weakness In The Limbs, We Shall Suspect Snake Envenomation. Ventilatory Support And Anti Snake Venom Can Prove To Be Life Saving Measures If Timely Given. Therefore, A Prompt Diagnosis Is Must. Neurotoxic Snakes, For Example, Common Krait Hunt In The Night Hours And Are Quick Enough To Bite The Victims And Paralysing Them Without Even Making Them Aware As Their Bite Is Painless And Seldom Seen.

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