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Why thousands of Snake bite deaths

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Starting from a clinical meeting at a small rural hospital in West Bengal on 7th August 2007, interaction of this author with all most all categories of doctors would be a good indicator to analyze the causes of thousands of snake bite deaths in India.

The author has come across this "most neglected public health problem of India", when he was working as a Medical Officer (MO) of a small rural hospital (State General) in the North 24-Paraganas district of West Bengal (WB). Starting from March up to the end of October, twenty snake bite patients per week on an average get admitted there. This author has noted all kinds of misconceptions amongst his colleagues in this subject. Not only in that rural hospital, but in his experience of seminars in two large Medical Colleges of WB as well, he has noted the same kind of misconceptions about managing a case of snake bite.

To know the status of concepts amongst the participants of any kind of workshop, seminar or CME on snake bite, this author has designed a set of Multiple Choice Questions (MCQ) called "Self assessment Test for Snake Bite". In his survey amongst more than four hundred doctors in the last three years, he has come to the conclusion that, lack of training and awareness amongst the doctors are the chief causes of thousands of snake bite deaths in India.

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We popularly blame illiteracy, poverty and strong belief on faith healers (Ojhas). No doubt, these are some of the contributing factors, but should we not try to rectify our deficiencies first? Why snake bite is not included in the clinical classes of our Medical Colleges (MC)? Why has not a single MC started clinical classes on this subject in last one year even after earnest request from the honorable Governor of WB?

If we note some experiences of this author in different forum of doctors', we would be able to get some idea of our position in this subject. In a clinical meeting on 7th August 2007 in a rural hospital this author presented a small paper on Snake bite. He was surprised to realise that the senior most physician of that hospital came to know for the first time about the peculiarity of Common Krait snakes. That snakes can inflict painless bites and can present without local signs was a surprising information to him. Not only in him, but this author has noted these types of beliefs amongst almost all categories of doctors, starting from a junior MO of a health centre to the principal of a MC.

In a seminar at a rural MC in February 2010, this author was given the information that 1424 venomous snake bite cases were treated of which 74 died in the year 2009 in that MC. Some data gathered from that seminar would be more than enough to understand the problem. In the welcome address the principal categorically told that, two fang marks are mandatory in a case of venomous snake bite. That, in the case of Common Krait (CK) bite, fang marks would not be noted in more than 90% of cases was unknown to almost all the participants of that seminar. Up to 100 vials of

Anti Snake Venom Serum (ASV) was infused to some patients there! There were no King Cobra or Sea Snake bites. This large amount of ASV was infused in the average cobra or viper bite cases. That 10 vials of ASV may be a suitable initial dose for the average Indian snake bite cases; requiring upto 30 vials only in some cases of Russell's Viper, was a surprising disclosure to most present in that MC on that day.

Hence, this author was not at all astonished to know that, none in that MC was aware about the existence of the beautiful posters on Snake Bite treatment protocol prepared more than three years ago by the Department of Health, Government of WB. They were rather surprised to see those three posters in the hands of this author. Practically these posters on the latest protocol of Snake bite management were never sent to the rural hospitals and health centers (PHC). Ideally, these PHCs should be the nodal hospitals for snake bite treatment.

Last, information from rural MC is supposed to be the best indicator to know the cause of thousands of snake bite deaths in India. Injection Adrenaline is not available in that MC; nothing more to say!

Not a single class on Snake bite has been taken in the Departments of Medicine in the MCs of WB in last twenty five years. The state Director of Medical Education was satisfied to inform this author that, snake bite classes are taken in the Departments of Forensic Medicine (PSM). All of us know that, only zoology of snakes is taught in the PSM departments.

Only in 1 to 5% of cases a dead snake is brought to the hospital by the relatives of the victims. Why should we give emphasis on the zoology of snakes? Beautiful and dependable clinical features are now known to us which can help diagnose a venomous snake bite case. Progressive local swelling and pain are the sure signs of envenomation from a Cobra or Viper bite. No local sign is seen in Common Krait bite. Any unexplained bilateral ptosis should be suspected to be a case of CK bite; particularly if the patient slept on the floor without any mosquito net the previous night.

Here comes the doubt about the actual number of snake bite deaths in India. As per experience of this author in various seminars, workshops and symposia, thousands of CK bite cases are misdiagnosed. They are usually diagnosed as cerebrovascular accidents. Such death certificates are even given by 'experienced' general physicians as was confessed by a senior physician in a seminar held at a rural clinic in the East Midnapur district of WB. This very physician had been practicing there for more than thirty years. CK bite cases may present only with sore throat, pain abdomen, fainting attack, convulsion or arthralgia.

In an interaction in the 2nd week of March 2010 with some MO posted at a sub divisional hospital at the Sundarban area of the South 24-Paraganas district of WB, this author came across dozens of CK bite patients presenting with pain abdomen and convulsions; though in literature review, convulsion is a very rare presentation in CK bite. This author has started one web site www.kalachkrait.webs.com to elaborate the mystery of CK bite patients.

Concluding with some positive words; most of the doctors posted at the rural PHCs of WB are very much interested to learn snake bite management. ASV is freely supplied to all the Government hospitals of WB. All the Chief Medical Officers should be motivated to organize training workshops on snake bite. Medical Council of India and the Ministry of Health should take prompt action for starting clinical classes in all MCs of India. Snake bite management should be included in the National Programme of Health.

SELF ASSESSMENT TEST OF SNAKE BITE

1. Part (I) Types of Poisonous Snakes in India: a) 6. b) 10. c) 13. d) 52.
   Part (II) Types of Poisonous Snakes in West Bengal: a) 4. b) 6. c) 10. d)14.

2. Out of all Snake bites, % of nonpoisonous bites:
   a) 25% b) 50% c) 70% d) 90%.
3. Number of bite marks in poisonous snake bite always:
   a) Two. b) One. c) more than two. d) No hard and fast rule.
4. Cobras have which type of venom?
   a) Neurotoxic. b) Hematotoxic. c) Both. d) None.
5. Russell's Vipers have which type of venom?
   a) Neurotoxic. b) Hematotoxic. c) Both. d) None
6. Kraits (Kalach) have which type of venom?
   a) Neurotoxic. b) Hematotoxic. c) Both. d) None
7. Commonest local sign of poisonous snake bite:
   a) Bleeding from bite site. b) Progressive swelling. C) Pain.
   d) Both pain & swelling.
8. Krait bite is exceptional because local sign include:
   a) No pain b) No bleeding c) No local Sign. d) All local sign.
9. Early Neurotoxic sign include:
   a) Extensor plantar. b) No knee jerk. c) Ptosis. d) Ptosis & hoarseness .
10. Early Hematotoxic sign include:
    a) Red color urine. b) Anuria. c) Gum bleeding. d) Prolonged Clotting time.
11. Skin test before ASV therapy is:
    a)Mandatory b) May be done. c) Of no value. d) Required if IV AVS planned.
12. Route of ASV administration is:
    a) Local injection & IM injection. b) Local injection & IV infusion.
    c) Slow IV drip only. d) Rapid IV drip.
13. Early sign of ASV reaction is:
    a)Articarial rashes. b) severe bronco spasm
    c) Pain in infusion site.
    d) Cardiac arrest.
14. ASV reaction can be managed:
    a) Only at Tertiary hospital. b) At any hospital. c) By very skilled doctors. d) None.
15. Drug of Choice in ASV reaction is:
    a) Inj. Dexamethasone. b) Inj. ACTH. C) Inj. Adrenaline. d) Inj. Avil.
16. Dosage of ASV in average Indian snake bite:
    a) Two Vials. b) Five vials. c) 8-10 vials. d) Depends upon severity.
17. Inj. Neostigmine is to be given in:
    a) Neurotoxic bite. b) Hematotoxic bite. c) Krait bite d) In respiratory paralysis only.
18. Russell's Viper bite should be treated:
    a) At Tertiary hospital only. b) Where dialysis unit is present. c) At any hospital.
    d) AVS at PHC level, then only at referral hospital.
19. No bite mark, No local sign, Snake not seen, Neurotoxic features present. What is the most correct Diagnosis?
    a) Scorpion bite .b) Cobra bite . c) Krait bite . d) Viper bite.
20. Polyvalent ASV is available at:
    a) District hospitals b) At Medical Colleges , c) At all Govt. Hospitals .
    d) At Some Special Hospitals only.

Answers to Self assessment questions:

3. d, 4.a, 5.b, 6.a, 7.d, 8.c, 9.c, 15.c, 16.c, 17.c, 18.d, 19.c, 20.c 1.Part_ I-d, Part_II-b. 2. C 10.d, 11.c, 12.d, 13.a, 14.b,