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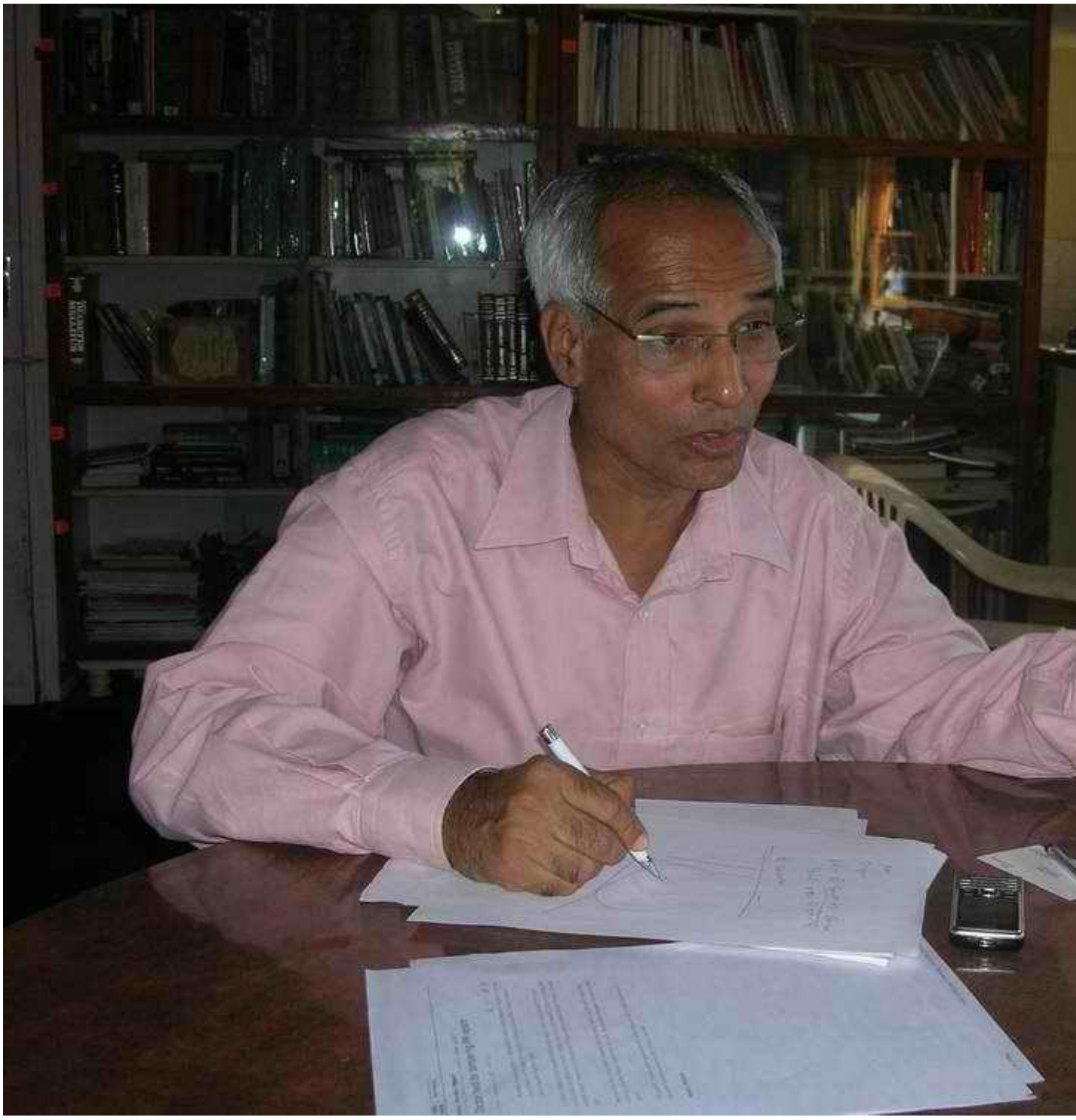
Interview with Himmat Saluba Bawaskar

Himmat Saluba Bawaskar at his study desk being interviewed by this journal (Click picture to enlarge)



Today the name H.S. Bawaskar is synonymous with the successful treatment of scorpion stings. It is impossible to see a publication on scorpion stings without a plethora of references to his work. Born in a humble family, Dr. Bawaskar rose to the level of a world authority on scorpion stings, solely by dint of hard work, determination and selfless dedication. It is a dream for many toxicologists to be just able to meet him and get some much needed inspiration.

We at the "*Anil Aggrawal's Internet Journal of Forensic Medicine and Toxicology*" became interested in him because of the same reason - his seminal work on Scorpion Stings [*Scorpion Stings* (Popular Prakashan, Mumbai, 2005)]. The editor-in-chief himself approached Dr. Bawaskar for an intimate interview. Some excerpts....)

Q. Please tell us something about your early life. When and where you were born. Something about who was the greatest inspiration in your life.

A. I was born in an illiterate farmers family in a small village in Jalna district in Maharashtra around the year 1950-51. The village in which I was born was really small; it had a population of just 500. I do not know my exact birth date as nobody was there to note the date of my birth. My parents did not note my birth date, as birth registration was not compulsory at that time. In my childhood my so-called illiterate mother taught me the greatest virtues of life - honesty, sincerity and dedication. These assets have been a big boon to me and have been the greatest inspiration for my life.

Click here to download Dr. Bawaskar's CV.

I virtually lost my childhood, since I was born in a poor farmer family. From age 7 till 18, I had to work as child labor in the form of a helping hand in book shop and as a sweeper in a temple. I also sold calendars, diaries and *panchang* (Indian horoscopic calendar) on bus stands. In my summer holidays, I worked as a waiter in hotels. I had to undertake these tasks, as I had absolutely no other alternative to sustain myself and learn simultaneously. I am happy I came out with flying colors in my efforts.

Q. This is really remarkable! Tell us, how did you become interested in scorpion and scorpion bites?

Figure 1 - Bamboo Basket - If a victim is bitten by a scorpion during night hours or in a relatively inaccessible area such as a jungle, this is the only way, the victim can be carried. (Click picture to enlarge)



A. Way back on 23 August 1976, when I joined as a medical officer at the primary health center (PHC) Birwadi, situated over the west cost in Raigarh (Raigad) district, Maharashtra, I was warned by the PHC staff to be beware of scorpion stings. This was because the red scorpion is mostly lethal and more than 40 % victims die due to acute pulmonary edema.

I read similar reports in the BMJ [Mundle, PM. Scorpion Stings. *Br Med J*. 1961 April 8; 1(5231): 1042]. This reference was quoted in Modi's text book of jurisprudence. During my MBBS course I was not taught the treatment of scorpion stings. Even the text books did not mention much about the treatments of scorpion sting. This made me do my own research. I used to admit all cases of scorpion stings at our PHC and study the cases in detail. I made keen clinical observations and tried

various regimens including decongestive treatment, medical phlebotomy etc. Still the fatality remained close to 30% [(Bawaskar HS (1977) Scorpion sting and cardiovascular complications. *Ind. Heart. J.*; **29**;228) and Bawaskar HS (1978) Pulmonary edema after scorpion sting. *Lancet* I 445-46]. Then I reported that vomiting, sweating, cold extremities, priapism and minimum or at times absence of local pain at the site of sting is a diagnostic premonitory signs and symptoms (Bawaskar Lancet 1982). Being the son of a farmer, it was my moral duty to find a solution to this problem. And thus I took it as a challenge and a basic responsibility to solve this acute life threatening critical medical emergency faced by villagers and farmers. Even when I was at the PHC, I used to spend almost 50% of my salary for things like contacting professors and specialists by phone at Pune and Mumbai. Sadly I did not get much help at the government level and I had to continue this mission alone. The Director of health service and other officers and politicians were not at all interested and did not encourage me to continue my research work. Instead they found faults with me for not completing the family planning target, which was their sole aim at that time.

Q. It is heartening to know, you carried on your mission all by yourself. Can you narrate for our readers some of your interesting cases? Which was your most challenging case? Or which one you can never forget in your life?

Figure 2 - Indian Red Scorpion (*Mesobuthus tamulus*) - Very poisonous (Click picture to enlarge)



A. I vividly remember a heartbreaking incident, which perhaps changed the course of my life for good. One particular night, a mother and her baby both were admitted to our PHC. Both had received a scorpion sting. A red scorpion (*Mesobuthus tamulus*) was found in their beddings. The mother received the first sting, and thus was envenomed with large and potent venom. She displayed the typical symptoms of scorpion bite; she vomited, sweated and became cold. Her baby received the second or subsequent sting from same scorpion, and thus was envenomed with a less lethal dose. The child was continuously crying due to pain, although thankfully, he showed no signs of lethal envenoming. I was sitting by the side of both victims for whole night with nothing with me, but the age old golden companions of doctors - the blood pressure apparatus and a stethoscope. In the morning the mother became critical and developed acute massive pulmonary edema. Still she was trying to tend to her baby and feed him. I remember that just as she gave her nipple in the mouth of her baby in order to suckle him, she died of pulmonary edema . This incidence broke my

heart and mind and I felt shattered like never before. I felt my mind shaken like an earth quake and took a vow then and there, that I will solve this problem irrespective of whatever comes in my way.

As my MBBS knowledge was not enough to study this problem in detail, I got myself posted at Pune and got enrolled at BJ Medical college, Pune, for an MD degree in medicine in 1978. I completed my MD in 1982.

Q. That's great. Your thesis topic must have been on scorpion stings.

Figure 3 - black scorpion (Palmeneus gravimanus) is less poisonous. Envenomation causes local pain, edema, local sweating, at times slight rise in blood pressure and bradycardia. (Click picture to enlarge)



A. Oh, no. My guide perhaps did not have enough experience in that. So I was given the topic "Indirect haemagglutination test in amoebiasis" for my MD thesis. Even at BJ medical college a four year old child died of pulmonary edema due to scorpion bite, although he was under the care of a professor of pediatrics and a cardiologist (DM Cardiology). This news discouraged me to return to rural areas. Still professor KD Sharma, a pathologist and Professor RS Wadia, a neurologist advised me to return to western Maharashtra and devote myself to solving this problem. During my MD course refractory heart failure was a hot and highly discussed topic. Thus I concluded what I was studying was nothing but refractory pulmonary edema. Hence I took 2 ampoules of sodium nitroprusside (SNP) with me and returned to PHC Poladpur. I was the first MD to appeal for transfer to rural areas, and the government sent me at my own request. I personally feel, they should have felt happy that a highly educated doctor was himself requesting for a placement in a rural area, and should have reimbursed my traveling allowance, if only to encourage other doctors to do the same. Sadly, they did not reimburse my traveling allowance too.

...It was a moral dilemma for me. Should I attend the funeral of my father, who had helped me become what I am today, or should I stay where I was to treat the child? After a few moments of uncertainly, the solution flashed in my mind. I would follow the Hippocratic Oath, and stay back to care for the child. Thus, strange as it may seem to all, I did not attend the funeral of my father; instead I continued to treat this child...

I joined PHC Poladpur at Raigad district 20 KM away from PHC Birwadi. In August 1983, a 7 year lone child of a person had scorpion sting with all signs and symptoms of red scorpion sting. Next day the child developed acute pulmonary edema. The father took it for granted that his son was going to die, because deaths due to scorpion stings were taken as a routine fact of life. As soon as the parents saw the typical symptoms of scorpion bite - priapism, cold extremities and dyspnoea -

they called all close relatives and started preparations for funeral! They automatically assumed the child was going to die in next few hours. Nobody was ready to take the victim for treatment to the tertiary care hospital Mumbai. Surprisingly even when I took a few cases at a big tertiary hospital, the professors and registrars used to ask me for advice for further management. In the current case, my wife (MBBS) and I decided to use SNP. I took permission from the father. With deep sorrow he consented, and told me to try my best. I gave SNP to the child, and we both (husband and wife) sat by the side of child observing the drip. We took BP every five minutes (at that time scalp vein, intracathe, micro vein set, infusion pump etc were not available). We used to reuse the rubber intravenous set by boiling. To our great joy, the child recovered from pulmonary edema within 12 hours. I was mad with joy and almost instinctively started dancing! That was the first case which recovered from pulmonary edema under my care, with such basic amenities. Ironically, on the very same day, I received telegraph from my village regarding demise of my father.

Bawaskar talking to the editor-in-chief of this journal
(Click picture to enlarge)



It was a moral dilemma for me. Should I attend the funeral of my father, who had helped me become what I am today, or should I stay where I was to treat the child? After a few moments of uncertainly, the solution flashed in my mind. I would follow the Hippocratic Oath, and stay back to care for the child. Thus, strange as it may seem to all, I did not attend the funeral of my father; instead I continued to treat this child. I am sure, my father's soul, wherever it is, must have approved my action. In just one month 65 cases recovered from pulmonary edema by SNP under my care. But this was not the solution. Then again I read the medical littérateurs on refractory pulmonary edema in the KEM, JJ hospital library Mumbai, and noticed that prazosin a postsynaptic alpha -1 blocker is called oral SNP. Hence I started using prazosin and fatality was reduced to <1% (Lancet 1986) .

Another shattering case in my life was when a 72 year old village woman came to me with her lone son who had scorpion sting the day before. Unfortunately he had died on way to our hospital at Poladpur. She began to cry as soon she was informed of the death of her lone earning son. We both felt sorry for her, and tried to console her by offering money to her. She replied money had no value for her then, and that she would burn up this money as well. On that day I realized how worthless

money could be, and my resolve to help people without consideration of money grew even stronger.

Q. These are really very very illuminating cases. Tell us, in which Indian states is the scorpion menace maximum?

Figure 4 - Batwing Pulmonary edema in chest X-ray due to scorpion sting (Click picture to enlarge)



A. *Mesobuthus tamulus* (Indian red scorpion) is seen all over western Maharashtra, Bellary district of Karnataka, all over Andhra Pradesh, Kutch district of Saurashtra. Pondicherry, Chennai and Patna.

Q. What can be done at the government / local level to decrease the scorpion menace?

A. I feel, the government is not at all interested in prevention or management of scorpion stings. Whatever we need to do, we have to utilize our own meager resources. We at our own cost trained all the peripheral doctors in Maharashtra and delivered lectures and posted published material to all endemic areas and this has made everyone aware of the utility of prazosin all over India and abroad. We don't expect any award or felicitation from anybody; even by government. We just expect that they make prazosin available to all PHCs.

Q. Yes, if somebody in the government is reading this, he can take notice. What else should the government make available at PHCs?

Vials of scorpion venom antiserum (Click picture to enlarge)



A. Recently scorpion antivenin has become available, but in my experience it does not work if it is administered after one hour of the sting (JAPI 2008). Moreover it is expensive. A 10 ml vial costs 350

INR (Indian Rupees), and you need to give 5 to 10 vials (to be administered by intravenous route). This comes to about 3500 INR for the treatment of just one patient. Just compare this with Prazosin, which costs INR 2 only. Prazosin is used in Turkey (J Amer therapeutic 2007) and Saudi Arabia (Saudi medical J 2008) . Thus Prazosin can rightfully be called a poor man antivenin (JAPI 2008).

Q. In many of your publications, we see the name of Bawaskar PH. Can you tell something about your co-author and his/her full name.

A. I have had around 50 publications so far, of which about 20 are in "The Lancet" (letters, case reports and papers). PH Bawasakar is my wife and my life partner in my mission. Her full name is Pramodini Himmatrao Bawaskar. She holds an MBBS degree.

Q. When did you start your hospital and research center? How many beds does it have. What kinds of patients does this see.

Bawaskar Hospital and Research Center, where Bawaskar has done his remarkable work on scorpion stings. (Click picture to enlarge)



A. I started a three bedded hospital in 1986 without any staff (no qualified staff is available at villages anyway). We both are everything in the hospital - doctors, nurse, ward boy and managers. We routinely see OPD and emergency cases such as acute myocardial infarction, shock, DM, stroke and snake bite. Our hospital is equipped with cardiac monitor, defibrillator, infusion pump, simple ventilator, ambu bag, Bipap and portable simple echo machine. We feel that each patient who comes in the OPD, teaches us something new in medicine.

Q. If a patient is brought to a doctor with suspected scorpion bite, how can he diagnose and confirm that it is scorpion bite?

A. Scorpion sting initially causes severe excruciating pain at the site of sting which radiates along with corresponding dermatomes. The pain is gradually reduced in the next 24 hours. Severe local pain without systemic involvement is diagnostic of non-poisonous sting.

On the contrary, if the victim gets pain which subsides or reduces rapidly, but other systemic symptoms develop, then it might be suggestive of envenomation by a poisonous or lethal scorpion and may need immediate hospitalization. These symptoms include vomiting, profuse sweating all over the body, salivations, cold extremities, confusion (especially in a child), puffy face, and raised blood pressure with cardiac arrhythmias. These are of course suggestive of an autonomic storm, which is common with scorpion bites.

Q. In cases of serious scorpion bites, what treatment should the doctor institute? Please describe in detail.

A. Sure. Local pain can be treated by applying cold water (a cloth soaked in cold water particularly from an earthen pot or an ice cube enclosed in a cloth) at the site of the sting and giving oral paracetamol. Severe pain can be treated with initial one shot of local xylocaine with oral diazepam and NSAID. It is better to avoid repeat xylocaine because of rapid development of tolerance. The requirement keeps on increasing, and what's more disappointing is that the pain which reappears after a repeat dose of xylocaine is severe and is much more increased in intensity than what it was before.

Figure 5 - Recovery of pulmonary edema by oral prazosin - At four hours (Click picture to enlarge)



Q. Have you dealt with any case in which there was some kind of medicolegality involved with scorpion bite. Some possibilities that come to my mind are (i) A farmer getting scorpion bite working in his masters field, and he asked for compensation (ii) Scorpion put in the beddings or shoes of an enemy so that he may be killed. Have such possibilities occurred in real life? Is it possible that such cases are occurring and we are just considering them as accidental scorpion bites? Please enlighten.

A. In a fatal scorpion sting case we conduct the postmortem examination and in Maharashtra it is noted as accidental death and government gives INR (Indian Rupees) one lac (one hundred thousand) compensation for scorpion and snake bite through farmers' insurance. I am not aware of any homicidal scorpion bites, or any other compensation cases due to scorpion bites in the last 30 years.

Q. Is it true that in scorpion bite we get a refractory pulmonary edema? What exactly is meant by refractory pulmonary edema?

A. Scorpion venom delays the inactivation of neuronal sodium channels resulting in an autonomic storm. Sudden liberation of endogenous catecholamine results in a sudden rise in both cardiac preload and after load and cardiac arrhythmias. Refractory pulmonary edema is due to an acute rise in preload and after load which does not respond to routine decongestive treatment. There is an increase in peripheral resistance due to vasoconstriction (cold extremities).

Figure 6 - Recovery of pulmonary edema by oral prazosin - At 24 hours (Click picture to enlarge)



Q. What is the exact role of prazosin hydrochloride in scorpion bite? Does it help in refractory pulmonary edema?

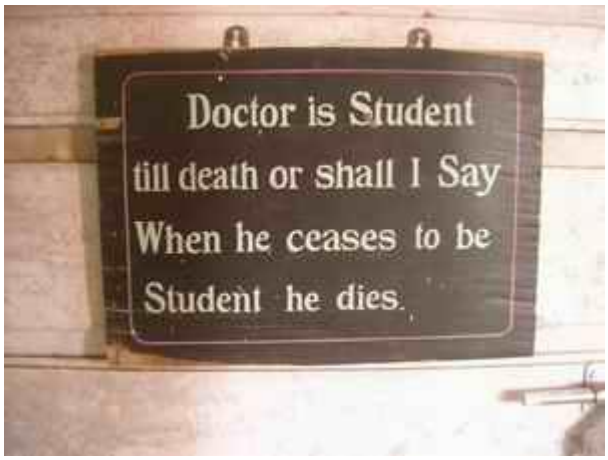
A. Alpha receptor stimulation plays an important role in the pathogenesis of pulmonary edema due to scorpion sting. Prazosin is a post-synaptic alpha-1 blocker. It reduces preload and left ventricular impedance without rise in heart rate. It enhances insulin secretion which is suppressed in scorpion sting victim due to catecholamine excess. Thus prazosin may rightly be called a physiological and pharmacological antidote to scorpion venom.

Q. What dose of prazosin is given and by what route?

A. It is administered orally in a dose of 250 microgram for a child below five years and 500 microgram in adults at three hourly intervals. The drug is repeated till the extremities remain cold. When warmth returns, the dose may be stopped.

Q. What is the role of sublingual nifedipine in scorpion bite?

A plaque outside the office of Bawaskar which outlines his life's philosophy quite succinctly (Click picture to enlarge)



A. Nifedipine, a calcium channel blocker, has negative ionotropic action on the myocardium. Hence it is no more recommended in scorpion stings (References: QJM and Toxicon)

Q. Do you administer scorpion venom antiserum in cases of scorpion stings?

A. Scorpion antivenin is prepared at Haffkine Institute Mumbai. There are lots of controversies regarding its use. In my experience it is not beneficial if administered after one hours of envenoming (JAPI 2008). Similar reports have come from Saudi Arabia and Turkey too. Furthermore, while there are about 45 poisonous scorpion species all over India, scorpion antivenin is available against *Mesobuthus tamulus* only.

Q. Is Nitroprusside drip helpful in pulmonary edema?

A. Yes. In massive life threatening pulmonary edema when time is a great enemy and the victim is at stake Sodium Nitroprusside (SNP) does help in alleviating the pulmonary edema. In fact, it is the gold standard for acute massive pulmonary edema.

Q. Have you seen hypotension in scorpion bite too. What is the lowest BP you have seen in scorpion bite? What is the highest BP you saw in scorpion bite?

...Scorpion stings in early June and October, November are more serious and more cases of pulmonary edema seen in these months. There are several reasons for this. Firstly, these months are the breeding seasons of scorpions. Secondly because of flowering during these months, ample amounts of insects grow up and scorpion get easy food...

A. Yes, you are right. We do see hypotension too in scorpion bites. I have noted hypotension as low as 60 -70 mm of mercury (systolic) and hypertension 240/160 mm of mercury.

Q. I believe that at one time Captopril (an ACE inhibitor) was given to treat scorpion stings. Is it still useful? Have you used it?

A. Captopril is an ACE inhibitor, which is used as a vasodilator in the management of scorpion sting . But it increases bradykinin level, which is already high in scorpion sting victim. Bradykinin is one of the autacoids responsible for severe hypotension and anaphylaxis. Thus I do not recommend its use.

Q. In your earlier part of the interview you mentioned about a study by Mundle [Mundle, PM. Scorpion Stings. *Br Med J*. 1961 April 8; 1(5231): 1042]. This study says that stings in November and May are particularly serious. Is this true? If yes, why?

A. Stings in early June and October, November are more serious and more cases of pulmonary edema seen in these months. There are several reasons for this. Firstly, these months are the breeding seasons of scorpions. Secondly because of flowering during these months, ample amounts of insects grow up and scorpion get easy food. Thus scorpions are healthier and produce venom which is more potent and more in quantity both.. Finally, during these months there is high environmental temperature, which causes more fluid loss due to excessive sweating. Potent venom enhances autonomic storm.

Q. Some reports suggest that DHE (Dihydroemetine) injected at the sting site can be of benefit. I do not understand why it should be helpful. Please enlighten.

A. I know some books mention this, but this is wrong. DHE is no more used now for scorpion stings. It is not even available. Because of severe local tissue irritation, it causes local tissue necrosis. It damages the local pain conducting receptors and nerves. It is also cardiotoxic. I would advise everyone not to use it even if they have access to it. It is contraindicated in scorpion stings.

Q. Pretreatment with Aprotonin (a kallikrein-kinin synthesis inhibitor) has been find to be of help in rat model. Is this correct? Does this mean, that villagers in scorpion infested areas should be daily injected with Aprotonin? Please enlighten.

A. Aprotonin is a toxic drug. It causes severe anaphylaxis and is expensive. It also inhibits the PAF(platelet activating factor). So I do not recommend it. Instead a simple non toxic antihistamine Rupatadine is available now which one can fruitfully try. It is a new selective histamine H1 receptor and platelet-activating factor (PAF) antagonist. It is marketed by Panacea-Biotech under the trade name Ralif.

Q. It is recommended in some books that a negative pressure suction device may be used to suck the venom of scorpions and snakes. Is it recommended?

A. At present there is no evidence that this method alleviates the envenoming effects on the system.

Q. It is commonly taught in medico legal circles that the best way to differentiate a snake bite from a scorpion sting is that while in the former you see two holes, in the latter you see just one hole. Is this correct?

...Local manifestation of scorpion sting is severe local pain which can be confirmed by TAP sign. There is mild edema, sweating, and local fasciculation at the site of sting and at times only a small pin head subcutaneous bleed spot is seen. Otherwise there are no other sting marks...

A. Local manifestation of scorpion sting is severe local pain which can be confirmed by TAP sign. There is mild edema, sweating, and local fasciculation at the site of sting and at times only a small pin head subcutaneous bleed spot is seen. Otherwise there are no other sting marks.

In case of snake bite the evidence of fangs marks can be made by injecting local xylocaine at suspected site and you may find oozing of xylocaine from puncture marks.

Q. What is the typical appearance of the skin which has had scorpion bite?

A. Local redness is about the only thing you see.

Q. Which body parts are more often stung by scorpions?

A. End of extremities, especially the lower extremities. However scorpions are often found in the loose roof tiles of hut falls during night hours of early monsoon season. In such cases, they may

creep in to the bed of the victims, and the sting may then be seen in any part of body, say on the back. In one exceptional case, the scorpion found its way in the trouser pocket of the victim, and when the victim put his hand in the pocket, the scorpion stung!

Q. Is it possible to murder someone with scorpion? Say, someone slips a couple of scorpions into the bedding of his enemy. Or may be in this shoes? I ask this, because ours is a medico legal journal and most readers would be interested in medico legal aspects of it.

A. I have no idea of this kind of activity. Nor do I know of any actual case. I only know that venom can be used for medical purposes i.e. it can be used to treat Brugada syndrome (Lancet 2008) or in epilepsy or brain tumor.

Q. Should tourniquet be applied in scorpion stings?

Click here to download Dr. Bawaskar's CV.

A. No

Q. Do we see allergic reactions in scorpion stings? How often are they seen? What are the most typical symptoms and signs?

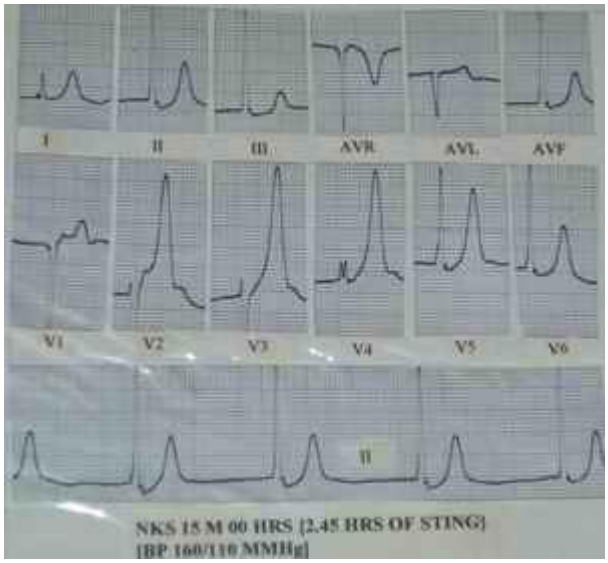
A. Allergic reactions are very rare. As scorpion venom raises the catecholamine levels in the body, allergic reactions or anaphylaxis are not seen.

Q. Does the administration of oxygen have any role in the treatment of scorpion bite?

A. Yes, sure it has. It helps in the recovery of acute pulmonary edema.

Q. We already saw, that we can get hypotension in scorpion bite sometimes, right? Now, if we get that, must we treat it with dopamine infusion? Or is there some other way?

Figure 7 - Condition of arrival of a patient bitten by scorpion. Marked tented T waves in a case of scorpion sting with raised blood pressure (Click picture to enlarge)



A. Initial hypotension is due to loss of fluid such as vomiting, sweating, salivation. Bradycardia is to be treated with intravenous fluid. Hypotension which occurs after 12 hours of sting with warm extremities with tachycardia with or without pulmonary edema responds well to dobutamine drip (5-15 microgram/kg/min). However the recovered victim at the end of 36-48 hours develops

asymptomatic hypotension with bradycardia. This is due to the depletion of catecholamine and it is felt that is should be corrected within the next 24 hours.

Q. How often is persistent vomiting seen in scorpion bite?

A. Victim vomits once or twice only.

Q. Do you have some experience with spider bites too?

A. No. I am afraid, I have no experience with spider bites.

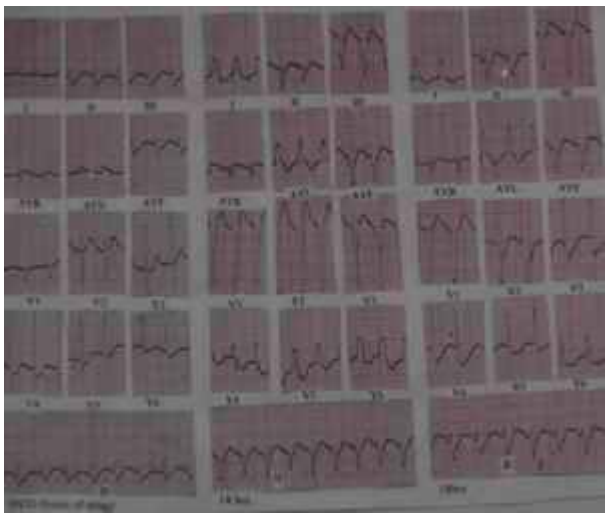
Q. Which types of snake bites have you seen? Can you relate to our readers some of your clinically interesting cases?

A. Common snake bite cases are Krait, Cobra, Russell's viper and *Echis carinatus* (Saw scaled viper).

Q. Do you have experiences of any other venomous animal/insect bites? Please elaborate for the benefit of our readers.

A. I have seen five cases of rabies. I vividly remember the case of a 24 year old female teacher with 6 month pregnancy who died of hydrophobia. I was not involved directly in this case. This woman had dog bite at the time when she was 3 month pregnant. She reported to PHC for immunization. Medical officer present there declined to give her the required antirabies vaccine, because he felt the vaccine may have teratogenic effect. This was sad because anti rabies is not contraindicated in pregnancy. In any case, pregnancy could be terminated and she could have a baby again, while loss of life is irreversible. I only wish the medical officer present there had understood this.

Figure 8 - Acute myocardial injury to the conducting system resulted in development of left anterior hemiblock and left bundle branch block (Click picture to enlarge)

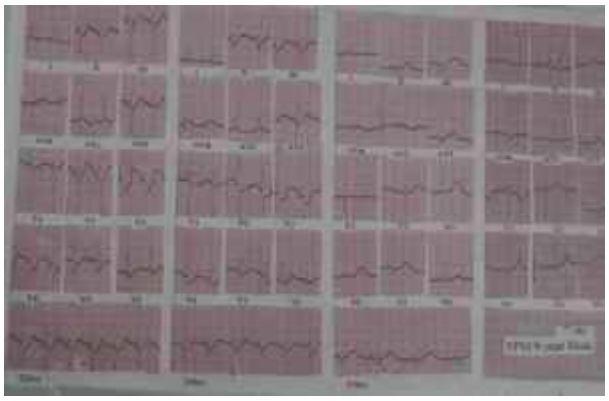


I saw two cases seen just a few weeks back - in the month march 2008. A 40 year female was brought to the hospital with chest pain and dysphagia for 24 hours. As soon as I asked her if she had dysphagia for water, she developed severe phyrangolaryngeal spasm. This was just because she heard the word "water". She died the next day. She gave history of dog bite one month back on her left wrist. The dog had died the very next day. She had root pain and paraesthesia all over her left arm which was treated by local doctors by giving electric (galvanic) shock. This was another grave example of ignorance on the part of medical professionals. A proper treatment regimen started at the right time could have saved her life.

In the other case, a 72 year old man reported with history of dysphagia. While examining, I found that as soon as the fan was started, the resulting air induced a spasm (aerophobia). He died the next day. He gave history of dog bite on his right tendoachilles. He killed the dog and reported to PHC. As no antirabies vaccine was available, the medical officer referred him to Mahad (a city and a municipal council in Raigad district in Maharashtra), but he did not report to Mahad. Instead he went to a tantrik three times.

An important lesson to be learnt from this incidence is that the offending dog should not be killed; instead, it must be observed for development of the disease. If the dog dies, it confirms its saliva was infected with rabies virus, and that the victim needs immediate treatment with rabies immunoglobulin.

Figure 9- Recovery by dobutamine and Prazosin. (Click picture to enlarge)



Q. Tell me doctor. You have been working for years, seeing so many patients. How has this long journey in medicine been rewarding in terms of money?

A. You may be surprised, I did not earn enough money, because that was never my goal. My goal was only to serve the humanity, and I am not disappointed that I have failed on the front of gathering wealth. Both my wife and I spent 35 years of our life for research only. My classmates practicing in city areas became millionaires and few of them could afford as much as 4 million INR (Rs 40 lacs) as donation to get their children admitted in private medical colleges. I could not do the same.

Q. Oh, this brings us to a very important question - your children. Please tell us something about them.

A. I have two sons. The elder is Pankaj. He has done his B.Sc. (science) in farming. The younger Paraj is studying first year MBBS at Government Medical College, Akola. I suffered in more ways than one, for choosing to working in rural areas. Due to lack of standard education at rural areas, my elder son could not achieve what he could, had we all been in a city. He had to be content with just doing B.Sc. and is now doing farming. However my younger son Paraj got admitted in the medical college at Akola for MBBS course. Thus in a way, my life time mission has had a detrimental effect on my children and future generation. The billion dollar question, which my children and I want to ask the government is, "what facilities does the government, politicians or the nation is giving to you for wasting life in researching out the life saving remedies for scorpion victims". This question has unfortunately remained unanswered. To my surprise, once my son exclaimed, "you could have chosen a career in cricket or films or Politician to be a millionaire in short time. Why didn't you choose those professions?"

Bawaskar with his wife Pramodini Himmatrao Bawaskar doing their daily prayers (Click picture to enlarge)



Q. That's very correct statement you are making. Our nation should certainly have recognized your efforts. But don't you think, this malady is everywhere in the world - even in America? American President John F. Kennedy (1917 - 1963), is reputed to have said during one of his speeches, "Ask not what your country can do for you; ask what you can do for your country." How do you react to this?

A. I did whatever I can do for my nation and I am fully satisfied with my academic achievements. But now the time is not the same, what it used to be in JF Kennedy's (1917-63) time. Today it is difficult to wake up those who are sleeping hysterically. To be frank I am not a Mahatma (saint) and I don't want to be.

Whenever I attend a conference everybody asks me about the new research I am doing. Even when my son entered in medical college, some people remarked that now my son could propagate my research further. Does this imply that that only Bawaskars should do the research and other should earn money and enjoy the life?

Q. Any message for our readers?

A. Today in India, honesty, sincerity and dedication has become aged, malnourished and debilitated. These traits walked fast and have reached the grave yard - so to say. Sadly, on the other hand, corruption has become healthy, active, enthusiastic, respected and has become a fact of life. That is why today, we are not able to produce dedicated doctors. The only thing free from corruptions is mother's milk, I hope.



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