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Original Article

A Study of Snake Bite Cases in Faridpur Medical College Hospital, Faridpur

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Abstract :

Snakebite is one of the important cause of mortality in our country. This study was carried out to see the common type of snakes in local area with clinical presentations, complications and outcome of snake bite patients inFaridpur. Fifty cases of snakebite patients in medicine wards of Faridpur Medical College Hospital from 1st January 2012 to 31th April 2013 were studied. Among 50 snake bite patients 35 (70%) were male and 15 (30%) were female. Among them 30 (60%) were venomous and 20 (40%) snake bite cases were non-venomous.The common victims were farmers (53%) and housewives (13%). The bites were commonly encountered during rural foot walking (32%) followed by sleeping (15%). 55% were bitten during outdoor and agriculture related activities. 65% had sustained bite in lower limbs. The majority (82%) of the snakebites were observed during the month. Total 98% patients applied multiple tight tourniquets in the affected limb. A common local practice (seen in 85%) was to receive pre hospital treatment from 'Ohzas'. Among 30 poisonous cases, drooping of the upper eyelid, external ophthalmoplegia and brocken neck were the common features of poisoning. Among the 30 venomous snake bite cases 21 (70%) recovered completely after getting polyvalent antivenom serum and 9 (30%) died after admission. Total 80% cases recovered with 10 vials of polyvalent antivenom serum but others required upto 30 vials depending on severity of symptoms and its duration. No reaction to anti-snake venom was noticed.

Key words : Snake bite, Venomous, Antivenom.

Introduction :

Snake bite is one of the significant causes of global morbidity and mortality. It has been estimated that 5 million snake bite cases occur worldwide every year, causing about 100,000 deaths[1]. In Bangladesh adequate data is not available due to lack of systematic record keeping system and lack of information and awareness at community level. An epidemiological study estimated the incidence of snake bites in Bangladesh about 8000 per year with 22% mortality which has been identified to be one of the highest in the world[2]. Bangladesh supports approximately 80 species of snakes[3,4]. Among them only few are venomous. These are Cobra, Krait, Russel's viper, Saw scaled viper, green snakes, sea snakes. Most bites are occurred by non-poisonous snakes and as many as 40% bites inflicted by venomous snakes do not produce signs of envenoming.

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Bites usually result from an unfortunate accidental interaction between a snake and a human victim. It occurs mostly when the people are at work like cultivation, gardening, plantation, wood collection, watching the crops even during walking. However bites are fairly common when victims are at sleep. During the bite it is unlikely that people can identify the offending snake. Venomous snake bites can be presented with local or systemic features of envenoming-neurological, haematotoxicities, myotoxicities, organ failure and some nonspecific features. Frequently victims present with complication of treatment by traditional healers or self-induced inappropriate application of tourniquet. The mainstay of management is anti-snake venom which although effective, can cause anaphylaxis. So at primary level hospital, it is usually withheld despite indication for possible danger which is easy to manage with proper approach[5,6]. Only supportive treatment including tetanus prophylaxis and assurance is sufficient for non-poisonous bites. The interval between the bite and death is less than 6 hours in most cases[7]. So, delay in diagnosis and treatment causes fatality. This study was conducted to know about common types of snakes in local areas, find out the clinical features, complications of snakebite and to see the mortality rate in snakebite victims in Faridpur Medical College Hospital.

Materials and methods :

This observational study was carried out in Faridpur Medical College Hospital from 1st January 2012 to 31th April 2013. Fifty patients enrolled consecutively during this period with those who saw snakes during bite or in whom bite mark or scratch marks were present or those who developed features of envenomation.Features during presentation and subsequent period were noted, antivenom was given accordingly and outcomes were recorded. Data were collected in a predesigned data sheet form and was analyzed accordingly.

Results :

Among 50 snake bite patients 35 (70%) were male and 15 (30%) were female. Total 30 (60%) were venomous and 20 (40%) snake bite cases were non-venomous (Figure I).

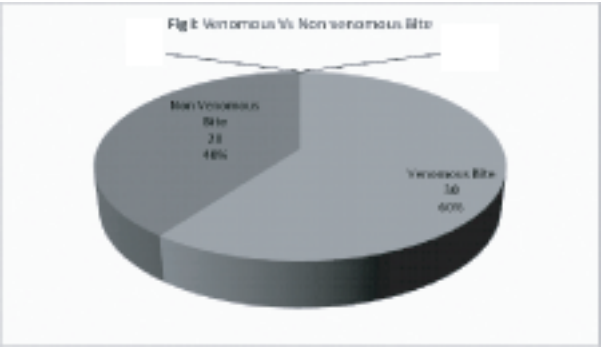

Figure 1 : Venomous Vs Non venomous Bite

The common victims were farmers (53%) and housewives (13%). The bite was commonly encountered during rural foot walking (32%) followed by sleeping (15%). Fifty five percent were bitten during outdoor and agriculture related activities. Sixty five percent had sustained bite in lower limb. The majority (82%) of the snakebites were observed during the monsoon. Total 98% patients applied multiple tight tourniquets in the affected limb. A common local practice (seen in 85%) was to receive pre hospital treatment from 'Ohzas'. The modes of treatment of 'Ohzas' were by multiple incision (24%), cauterization by chemicals (2%), suction by mouth (8%), ingestion of herbal products (8%). Among 30 poisonous cases, drooping of the upper eyelid, external ophthalmoplegia and broken neck were the common features of poisoning.

Among the 30 venomous snake bite cases 21 (70%) recovered completely after getting polyvalent antivenom serum and 9 (30%) died after admission. Total 80% cases recovered with 10 vials of polyvalent antivenom serum but others required upto 30 vials depending on severity of symptoms and its duration. No reaction to anti-snake venom was noticed (Figure II).

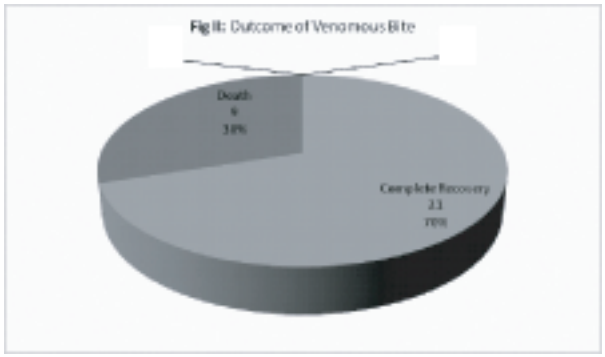

Figure 11 : Outcome of Venomous Bite

Combined sensitivity of two antibiotics to same isolates was also calculated. Majority of isolates were sensitive to both Amoxicillin and Clarithromycin followed by Amoxicillin and Tetracycline. It was found that 67 (81.7%) isolates were sensitive to both Amoxicillin and Clarithromycin, 61 (74.4%), to both Amoxicillin and Tetracycline, 60 (73.25%) to both Amoxicillin and Levofloxacin, 59 (72%) to Clarithromycin and Tetracycline, 59 (72%) to Clarithromycin and Levofloxacin and 51 (62.2%) to Tetracycline and Levofloxacin.

Sensitivity of isolates was compared between ulcer group and non ulcer group. Here significant difference was only found among Metronidazole resistance, among 25 isolates of *H. pylori* from ulcer group only 1 isolate was sensitive to this antibiotic and 24 isolates were resistant to Metronidazole but among 57 isolates from non-ulcer group 21 were sensitive to Metronidazole. This difference is statistically significant (P=0.002). Regarding other antibiotics tested, no significant difference was observed among ulcer and non-ulcer groups (Table II).

Discussion :

Snakebite is a major health problem in Bangladesh, where rural dweller, farmers working bare-footed in fields or sleeping outdoors are predisposed to frequent contact with poisonous snakes. In our study, venomous snake bite is more than the non-venomous snake bites which is inconsistent with other studies in Bangladesh[8,9]. This may also be due to the fact that mostly the venomous snake bites cases not cured by traditional treatment by 'Ohzas' are admitted in hospitals.

Most snakebite occurs during the monsoon season because of flooding of the habitat of snakes and their prey. Our study is in conformity of the fact. From other studies in Bangladesh and other Asian countries, snake bites abound during the months of June to

September[10,11]. The common site of bite was the lower limb 65%. In a study at Rajshahi it was 60%[10] and in a study of 130 cases in Taiwan it was 57%[11]. After the bites, all applied tight tourniquet to their limbs which were not done in appropriate method and may cause ischemic damage to the limb and gangrene to patients though fortunately none in this study population developed so. It should be applied loosely just to prevent spread of venom through lymphatics& veins [12].

None of the cases had local tissue necrosis or bleeding from the site of bite, which was common in Chittagong region[8,13]. The main clinical features here were neurotoxicity. Studies in South East part of Bangladesh [8,14-16] and in India[17] showed that predominant venomous snake bites were neurotoxic.

In our study among the poisonous snake bite cases 9 (30%) died after admission. They were brought 12-24 hrs after the bite in a critical condition and expired before anti-snake venom could produce its effect. Death rate in our study is comparable with another study in Bangladesh[17]. But in other studies in Bangladesh death rate among venomous snake bite was (6%)[8]. In our study, we got good result with 10 vials (100ml) of anti-snake venom in majority of cases whichwas inconsistent with other studies[8,9,13].

Conclusions :

Snake bites cases are still a serious health problem for us. Many patients are not aware of what to do instantly and not getting initial first aid management. They are spending valuable times before seeking treatment in hospitals and causing fatality. Treatment of poisonous snake bite with polyvalent antivenom serum is successful and safe. Availability of anti-venom at primary healthcare centre and rapid transportation facilities may change the morbidity associated with snakebites. Early administration of the polyvalent anti-venom has reduced morbidity and mortality. Awareness should be created among the rural people through mass media like radio, television & newspaper so that they go to hospitals after snake bite rather than to traditional 'Ohzas' after getting first aid by themselves.

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