A study 50 cases of clinical outcome and analysis of cases of snake bite admitted at P.D.U. hospital

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Abstract

Background: Snake bite has become a very important preventable public health hazard. Snake bite usually take place in villages and forests. About 2 million people are bitten by snake and about 35000-50000 cases prove fatal showed the mortality of about 1.75% to 2.5% due to snake bite. **Objective of study:** ¹To study the various complications of snake bite ²To study the overall outcome of snake bite. ³To study the cause of death in snake bite patients. Methodology: 50 cases of snake bite admitted at P.D.U hospital, Rajkot were studied, from December 2015 to July 2017 during the season of monsoon and post monsoon starting from June 2016. The clinical history and examinations were carried out in detail, all necessary investigations done, their clinical course and development of complications were studied, then outcome and analysis of cause of death were recorded. Observations: Most of cases of snake bite occurred in rural areas with 70 % of cases whereas only 30 % cases in urban areas. The highest incidence of snake bite is between May to August 37(72%) and the incidence in post monsoon is 26%. In clinical evaluation 44(88%) had symptoms of toxic snake bite within 3 hours and 6(12% cases) took >3 hours to develop symptoms. On examination local pain was reported in almost all cases 42(84%) out of 50 cases and local swelling was reported in 34(68%) cases. Local bleeding occurred in 24 (48%) cases which is the commonest manifestation, whereas other haematological manifestations like Heamaturia, Heamoptysis, Hemetemesis and Epistaxis occurred in 1 (2%) cases. Neurological manifestation like blurring of vision 23 (46%) cases, difficulty in breathing 20 (40%) cases and ptosis 20 (40%) cases. Local complications like cellulitis occurred in 29(58%) cases and systemic complications like bulbar palsy in 20(40%) cases, respiratory paralysis in 20(40%) cases, DIC occurred in 3(6%) cases. In outcome highest mortality noted in 2 cases out of 9 cases (22%) of cobra bite whereas 1 case died out of 9 cases of krait bite. in analysis of cause of death 2 cases were died due to respiratory paralysis and 1 case due to haematological toxicity. Conclusion: Most common presentation was cellulitis and bulbar and respiratory paralysis. Majority of the patients complicated and died due to respiratory failure. Key Word: Snake bite.

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INTRODUCTION

India has always been a land of common and exotic snakes. Snake bite has become a very important

preventable public health hazard as a result of urbanization and cutting down of forests. It is believed that in India about 2 millions people are bitten by snake and about 35000-50000 cases prove fatal. This amply reflects the magnitude of the problem. Snakes are ubiquitous species of reptiles, around 216 varieties are found in India, of which about 52 are venomous. Only four varieties of snakes are commonly encountered as a cause of snake bite poisoning⁶.

- Russell's viper
- Saw scaled viper
- Krait
- Cobra

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MATERIALS AND METHOD

50 cases of snake bite admitted at P.D.U hospital, Rajkot were studied, from December 2015 to July 2017 during the season of monsoon and post monsoon starting from June 2016. The clinical history and examinations were carried out in detail, all necessary investigations done, their clinical course and development of complications were studied, then outcome and analysis of cause of death were recorded.

OBSERVATIONS

Most of cases of snake bite occurred in rural areas with 70 % of cases whereas only 30 % cases in urban areas. The highest incidence of snake bite is between May to August 37(72%) and the incidence in post monsoon is 26%. In clinical evaluation 44(88%) had symptoms of toxic snake bite within 3 hours and 6 (12%) cases took >3 hours to develop symptoms. On examination local pain

was reported in 42(84%) out of 50 cases and local swelling was reported in 34(68%) cases. Local bleeding occurred in 24(48%) cases which is the commonest manifestation. whereas other haematological manifestations like Heamaturia, Heamoptysis, Hemetemesis and Epistaxis occurred in 1(2%) cases. Neurological manifestation like blurring of vision 23 (46%) cases, difficulty in breathing 20 (40%) cases and ptosis 20(40%) cases. Local complications like cellulitis occurred in 29(58%) cases and systemic complications like bulbar palsy in 20(40%) cases, respiratory paralysis in 20(40%) cases, DIC occurred in 3(6%) cases. In outcome highest mortality noted in 2 cases out of 9 cases (22%) of cobra bite whereas 1 case died out of 9 cases of krait bite.in analysis of cause of death 2 cases were died due to respiratory paralysis and 1 case due to haematological toxicity.



Table 1 shows the outcome and type specific mortality, the highest mortality noted in 2 cases out of 9 cases of cobra bite which is 22% whereas 1 case died out of 9 cases of krait bite.

| Table 2: Cause Of Death | | | | |
|-------------------------------------|---|--|--|--|
| Cause of death No. Of cases | | | | |
| Respiratory paralysis | 2 | | | |
| Periphery circulatory failure shock | 1 | | | |
| Cardio toxicity | 0 | | | |

Table 2 shows the cause of death. 2 cases are of respiratory paralysis due to cobra bite and died in spite of ventilatory support. 1 case died due to haematological toxicity. Cardio toxicity is not reported because of snake bite

DISCUSSION

In present study 50 cases of toxic snake bite were studied, who were admitted at P.D.U hospital Rajkot. The data collected in in present study were compared with other studies and details are as follow:

| Table 3: Local Manifestations Of Snake Bite | | | | |
|---------------------------------------------|-----------------|---------------|---------------|---------------|
| Local manifestation | Bhimani's study | N. Dhal study | Gohel's study | Present study |
| Local pain | 44% | 100% | 65% | 84% |
| Local swelling | 33% | 100% | 63% | 68% |
| | | | | |

The incidence of local pain and swelling ranges from 70-80%. This is local effect of venom.

| Table 4: clinical presentation | | | | | |
|--------------------------------|-------------------|-----------------|-----------------|---------------|---------------|
| Symptoms and signs | R. K khatri study | Bhimani's study | N. Dhal's study | Gohel's study | Present study |
| Local bleeding | | 71.42% | 35% | 27% | 48% |
| Other bleeding tendency | | 39% | | | 2% |
| Blurring of vision | 40% | | | 96.4% | 46% |
| Difficulty in breathing | | | | 32% | 40% |
| Ptosis | 60% | 92.85% | | 96.5% | 40% |

The most common clinical manifestation of snake bite is local bleeding. In present study it is comparable with other existing studies. However other bleeding manifestation of toxic snake bite is approx. 2% The next common clinical manifestation of toxic snake bite is blurring of vision occurred 46% in present study. Ptois and difficulty in breathing occurs in 40% of patient.

| | Table 5: mortality | | | | | |
|-----------|--------------------|---------------|------------|---------------|------------------|---------------|
| | R.K khatri study | Bhimani study | Nims study | Gohel's study | Tarun Gera study | Present study |
| Mortality | 0% | 12% | 4% | 7% | 10% | 6% |
| | | | | | | |

The minimum mortality ranges in between 4-10% in various studies. Which can be still minimized by increase awareness of public early hospital admission, after the bite early envenomation a good ICU with available artificial respiratory devices, under expert supervision and a good blood bank which may supply either whole blood or blood products round the clock as and when required. The mortality in present study was 6%. Respiratory paralysis was the most common cause of death.

CONCLUSION

Cellulitis was most common complication (58% cases) followed by respiratory failure and bulbar palsy (40% cases). There were about 3 (6% cases) of mortality out of which 2 had a cobra and 1 had a viper bite. Respiratory paralysis was the most common cause of death.

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