SURVIVAL AFTER COAGULOPATHY INDUCED BY (SAID DAKHIL)SNAKE BITE IN THI –QAR(SOUTH OF IRAQ)

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ABSTRACT:

Background and aims: Coagulopathy after snake bite in Thi –Qar is one of the challenge to health services in the last few years .different types of snakes are present ,the most dangerous one is belong to vipradea family is Echis Craniatus stimmler.

Patients and method: Retrospective study of patients who admitted to Al -Imam Al-Hussiens teaching hospital January 2002 – October 2011 ,308 , victims , (254 of them experienced bleeding).

Results: Female mostly were bitten in their upper limbs, while lower limbs among male. Death more among female, those who present late . DIC is the unique cause of death. **No** DIC occur after 7 days of the onset bite. **All** those who received blood from surviving DIC persons were survived. Use of available polyvalent Antivenom shows decrease mortality rate but not statistically significant.

Discussion: Early admission and receive medical care may improve prognosis. Formation of auto antibodies around the end the first week may explain survival and no death after this time ,which also explain the benefit to those who receive their blood **.Further studies needed .**

INTRODUCTION

Coagulopathy after snake bite in Thi –Qar governorate (which is locate about 360 kilometers to the south of Baghdad capital of Iraq), is one of the challenge to health services in the last years.

Different types of snakes are present in the area ,the most dangerous one is belong to vipradea family is Echis Craniatus (stimmler) . snake-bites remain a public health problem in most countries, even if it is difficult to be precise about the actual numbers involved.(1)The true incidence of and mortality from snake envenomation could exceed 5 million per year, with an associated mortality level of 125000 persons per year. About 2.5 million people are envenomed each year, half of whom request medical care, and probably more than 1 00 000 individuals suffer from severe sequelae .(2) **Agricultural activities are associated with most of the bites,(2).** In Europe, snake-bites are relatively rare . (3) In the Middle East, the snake species involved in bites are more dangerous than in Europe.(4, 5, 6). The saw-scaled or carpet viper Echis carinatus is widely distributed throughout Africa, the Middle East, Pakistan, India, and it is the most important cause of morbidity and mortality from snake 'bite in man.(7 ,8) E. carinatus venom can have at least four important effects in man local tissue swelling, local necrosis, incoagulable blood resulting from defibrinogenation, and spontaneous bleeding from small blood vessels.(7)

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PATIENTS & METHODS

Objectives

1-To study the main predictors of mortality after coagulopathy induce snake bite in Thi-Qar governorate.
2-Factors that improve chance of survival.
3-size of the problem

Subjects:

We retrospectively study all patients sustained snake bite who were admitted in the medical wards of Al –Imam Al-Hussein teaching hospital in Al-Nassiryia the center of Thi –Qar governorate due to poisonous snakebite from January 2002 – October 2011 , 308 , victims , (254 of them experienced bleeding)need admission to medical wards the age, gender, , site of bite ,time from bit to admission , onset of bleeding (clinical symptoms ,sign and complications) ,hospital record , treatment lines, use of anti snake venom , blood transfusion and fate of patients based on their medical records.

Methods

- Sites of the bite in all case are classified, upper ,lower,right, left, of the male and female.
- Admission to hospital after bite varied in patients ,to study its relation to mortality classify patients into three groups, first group ;who admitted in first 24 hours .Second group admitted in 24-28 hours after. Third group who presented after 48 hours
- **Coagulopathy** diagnosed on clinical features as well as from abnormalities on blood tests. For making the diagnosis of the type of Coagulopathy, any bleeding ,swelling at or away from site of the bite are followed and recorded, non-overt DIC means simple coagulation abnormality without any remarkable DIC sign and symptoms , so the patients divided into three groups(no bleeding, local bleeding, overt bleeding[DIC])
- **Onset of DIC was variable** for that reason we subdivided the patients according to the day of onset of DIC after bite.
- **Blood and blood elements transfusion** are important line of treatment especially in DIC group but the sources may be from: non bitten, , bitten , bitten and surviving DIC.
- The pathogenic effects of snake bite is due to venom for that reason **antivenom** is the main step in the treatment, patients are classified into three groups those: not received or inadequate use and third group adequate doses received to study the response to antivenom, and mortality in these three groups.

Statistical analysis

A **P** value less than 0.05 was considered to be significant statistically.

Results

See Tables

Discussion:

The finding in our study is the same which was founded by several hospitals treat more than 150 victims each year with an overall mortality of 7-15% (7) . The incidence of bite is high in warm regions, where snakes are abundant and economic activities are mainly agricultural(,9,10,11) this also found in our study Said Dakhail is arural area . in most developing

countries up to 80% of people bitten by snakes(9) .Iraq categoriesed in the area of mortality of 25/100 000 of population(2) Annual incidences in different areas of world is variable ranges from 3-500/1 00 000. Mortality varied in different areas of the world ranges 0.03 to 54 per 100 000 (2). Our finding about the site of bite is differ from other studies ,Who founded that bite of the lower limbs about four times the upper limbs(12), The reason for the differences may related to the life practice and life style. Delay in receiving medical care may be the reason that death occurs more in late presentation(more than 48 hours) .The death occurs more among those who presented more than 48 hours after bite (13) the same of our finding. Cerebral haemorrhage is the most frequent cause of death and may occur two to seven days after the bite (7,8). Complications following snakebite were mainly caused by hemorrhage and in rare cases, by infarction (7). The period of morbidity of the disease was about 6~7 days(13,14). Echis carinatus venom molecular size is big and it is slowly absorbed by lymphatics resulting in delay clinical effects which may persistent and seen more than 8 days of bite (15). We found Those who bleed in the first two days is statically significant more risk of death. Usually post mortum not done, but DIC is the cause of death. Some of the studies found that no spontaneous bleeding occurring in E. carinatus envenoming at a time when the blood was coagulable.(16 ,17). Coagulopathy commonly occurs with snake envenomation, although clinical bleeding is uncommon.(18,,19, 20,21,). We found in our study that mortality is significantly increase among those who have overt bleeding, which also seen by others.(22) . Our study showed no death occurs among patients who received blood from surviving DIC persons while one third died from those who received blood from bitten without bleeding complication or non bitten persons. We didn't found other studies use similar protocol, it may explained by the presence of antibodies in the blood of surviving DIC persons. This may help in the treatment of victims in future. We found no statically significant differences between those who received adequate antivenom if compared with inadequate or no antivenom .Explanation may due to species differences and the antivenom given is not specific , also this was reported that the mortality of echis bites treated with different types of anti venoms is different {(including ,Razi Institute(Iran) echis antivenoms)} . (7) . Significant qualitative differences in venoms from individual specimens of E. carinatus in the same area (23)(24). antivenoms raised against the venom of E. carinatus from one particular country might have little effect in neutralizingthe venom of E. cainatus from another country.(23)

Tables

Table 1: Demographic distribution of snake bite victims

year	Bitten patients			Patients with bleeding			Mortality		
	♂	♀	Total	♂	♀	Total	♂	♀	Total
2002	26	16	42	24	13	37	1	1	2
2003	12	7	19	10	5	15	0	O	0
2004	14	17	31	12	14	26	2	3	5
2005	12	14	26	11	12	23	0	3	3
2006	19	12	31	16	10	26	0	0	0
2007	13	20	33	12	16	28	1	1	2
2008	14	22	36	11	18	29	1	1	2
2009	9	18	27	8	16	24	0	0	0
2010	12	24	36	11	20	31	1	1	2
2011 (Oct.)	13	14	27	12	13	25	1	5	6
Total	144	164	308	127	137	264	7	15	22

Twenty –two(15 female ,7 male)died among 264 patients (137 female,127 male) who affected by bleeding after bite from 308 persons bitten (164 female ,144 male).Overall mortality forms 7% from admitted cases

Table 2: Site of the bite according to sex:

site		male	female	Total	P value
Upper limb	right	19	43	62	<0.05
	left	17	37	*54*	
	Total	36	80	116	
Lower limb	Right	79	49	128	<0.05
	left	29	35	*64*	
	Total	108	84	192	
Total		144	164	308	

There is significant statistical differences between sites of bite and sex of bitten person

Table 3: Mortality versus time of presentations

Time of presentation	No. of patients	No. of deaths (Mortality)
Within 24 hours	172	6
24 – 48 hours	100	5
More than 48 hours	36	11
Total	308	22

P value less than 0.01, there is significant statistical difference

Table 4: Mortality versus severity of bleeding:

	No. of patients	No. of deaths (Mortality)
No bleeding	54	0
Local bleeding	178	0
Overt bleeding	76	22
Total	308	22

P value less than 0.01

Mortality is significantly increase among those who have overt bleeding.

Table 5: Mortality according to onset of DIC

Onset of DIC	No. of patients	No. of deaths (Mortality)
1^{st} -2^{nd} day	38	15
3^{rd} 7^{th} day	37	7
total	76	22

P value less than 0.05.

Table 6: Mortality in DIC patients according to source of blood transfusion:

Source of blood	No. of patients	No. of deaths (Mortality)
From non DIC (non bitten, bitten person)	59	22
From surviving DIC	17	0
Total	76	22

P value less than 0.01

Table 7: Mortality versus use of antivenom:

Use of antivenom	No. of patients	No. of deaths (Mortality)
No antivenom	92	10
Inadequate use	105	7
Adequate use	111	5
Total	308	22

P value>0.05 there is no significant statistical difference

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البقاء بعد اعتلال التخثر الناشئ من عضة أفعى (سيد دخيل) في محافظة ذي قار (جنوب العراق)

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الملخص

الخلفيه والأهداف

عدم كفاءة وأعتلال التخثر بعدعضة الافعى في محافظة ذي قار هو احد التحديات للمؤسسه الصحيه في السنوات الاخيره .عدة انواع وعوائل للأفاعي تتواجد في المحافظه ولكن الأخطر تنتمي لعائلة ايكس كرانياتس ستملر ز @@طريقة العمل والمرضى: دراسة بأثر رجعي للمرضى اللذين أدخلوا أدخلوا مستشفى ألامام الحسين (عليه السلام)التعليمي في مدينة 120. 2 تشرين الثاني2002– الناصريه مركز محافظة ذي قار للفترة كانون الثاني.

النتائج:الوفيات تمثل 7% من الضحايا ,الاناث كان موقع الاصابه في الاطراف العليا, الاناث والمتأخرين عن الخدمه الصحيه كانوا اكثر عرضه للموت.أعتلال التخثر المنتشر كان السبب الرئيسي للموت,لا توجد حالات نزف منتشر بعد اليوم السابع بعد العضه. أكتسب الشفاء التام جميع اللذين تمت معالجتهم باعطاء دم من شخص تعافى من نزف منتشر بعد عضة الافعى .أعطاء مضاد سم الافعى قلل الوفيات ولكن لم يكتسب الاهميه الاحصائيه ,هناك حاجه لدراسات مستقبليه.

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