SIMulatED

Royal Darwin Hospital Emergency Department

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# Scenario Run Sheet: Brown Snake Envenomation

## Scenario Overview

**Estimated Scenario Run Time:**  8-10 mins

**Estimated Guided Reflection Time:** 10-15 mins

**Target Group:** ED Registrars and Nurses

**Brief Summary:** 26M Bitten by ?python (actually a brown snake), plays footy, collapses at 2 Mins into game, head strike, confused and evidence of VICC. Requires PIB early, Bloods, VDK, Antivenom, Ix of ICH with CT, consideration of FFP/Cryo

## Learning Objectives

**General**

- Team work/Communication

**Scenario Specific**

- Knowledge of/that:

 S&S of envenomation (likely brown snake)

 Local poisonous snakes (black/mulga, brown, death adder and taipan)

 How to apply PB and Immobilisation

 How to perform VDK

 Required blood investigations in snake bite, and abnormalities seen in VICC

 Collapse + VICC + Head Strike = ICH till proven otherwise

 Indications and method of admin of monovalent and polyvalent antivenom

 Potential side effects of antivenom including allergic phenomena and serum sickness

 FFP and Cryo can be considered to reduce duration of VICC

 The need for prolonged monitoring and repeated pathology testing

 The available resources in this setting at RDH – including Protocol, Toxicology Handbook and local experts

## Equipment Checklist

**Equipment**

Venesection

Standard Resus Trolley

Monitoring/Obs machine

Snake bite box including Pressure Bandage + WBCT tube, VDK specimens – bite site swab, urine and blood

**Medications and Fluids**

Multiple Antivenoms – monovalent and polyvalent

IV Fluids and giving sets

Analgesics

**Documents and Forms**

Triage Form and Obs chart

Snake Bite Protocol (only if specifically asked for)

Toxicology Handbook (only if specifically asked for)

**Diagnostics Available**

ECG – Sinus Tachycardia

CXR - Normal

VBG – Mild Hyperventilation

WBCT Sample – doesn’t clot

Coags – APTT >60, INR>15, Fibrinogen <0.1

Platelets 100, Hb 130

VDK – multiple positive, unclear result

CT Brain – can be ordered but not performed before end of scenario

## Scenario Preparation/Baseline Parameters

**Initial Parameters (same throughout)**

GCS 13 – M6 V4 E3

P 110

BP 100/60

Sats 99% RA

RR 24

T 37.2

BSL 5.6

**Mannequin Features**

NO PIB applied pre hospital

Bleeding from venepuncture site, mouth and wound on head ++++

## Participants

**Staff Actors**

Registrars x2 Patient – Jonno

Nurses x3ED Friend - Sammo

Consultant available by phone

Snake Expert (Bart Currie) available by phone

**Instructor Roles**

- If WBCT requested can show team the sample. Can accelerate scenario by stating that **“the WBCT has not clotted at 10mins”**

- Provide the candidate with a normal CXR, VBG showing a mild resp alkalosis c/w anxiety, bloods suggestive of VICC and the protocol only if specifically asked for.

## Candidate Instructions/Triage Information

You are called to see a 26M Footy Player in a bay in the majors area. He has been bitten by a ?python. Brought in by friends, No prehospital treatment. Please assess and treat – as you would in your everyday practice. At the end of the scenario you will be asked to handover the patient to the medical registrar on the phone.

NOTE: some results will be available immediately when asked for (accelerated time – to progress scenario)

## Patient Instructions

**What Happened?**

Bitten by brown coloured Snake on your leg (probably just a python) in the change rooms at footy

Started to play footy and collapsed 2 mins into game

Hit head, cant really remember being driven to hospital in back of mates Ute Tray

Cant remember anything else

**How do you feel/behave?**

“Like I’m gonna puke”, mild “pain in the guts”

Keep complaining that your “head is sore”, and getting worse over scenario progression

If groin lymph nodes examined they are sore. If not examined can state “the top of my leg is really sore” (point to iguinal LN’s)

Confused and repetitive questioning – increasing as scenario progresses

**Medical History**

Broken arm 5 years ago, Allergy to eggs – makes you vomit only

Not on any medications apart from panadol when have a hangover

**Social**

Electrician

Live with your girlfriend – keep repetitively asking someone to call her

Drink 10-15 schooners a week, Smoke 15 cigs a day

## Proposed Scenario Progression

Immediate PIB

Take appropriate history/examine for bite site/bleeding/neuro/CVS collapse

Bloods/VDK/CTBrain to be ordered

Consent for and give antivenom

Handover to EMU Consultant at end of scenario

## Case Considerations/Discussion

- The correct way to apply a pressure bandage and immobilise a patient

- The evidence based clinical usefulness of VDK

- How to diagnose envenoming (clinical features/VICC)- vs –which antivenom to use (VDK/area/clinical features)

- Monovalents vs Polyvalent antivenom

 Polyvalent contains 5 types of antivenom (E.Brown/Mulga/Tiger/Death Adder/Taipan) – with higher risk of adverse events/serum sickness/expense

 1,2 (or sometimes 3) monovalents can be given in preference to polyvalent (in this case the likely snakes are brown > mulga & taipan > death adder

- Evidence for the use of cryoprecipitate and FFP in VICC