Patient Referral and Transport

Lecture 14: Snake Bite Management Course

Introduction

- Many rural health facilities are not in a position to manage snake bite patients because of a lack of drugs, equipment, skills and specific knowledge
- They can potentially apply good first aid, provide emergency treatment for shock, and if necessary provide supportive care and non-invasive airway management
- In these situations patients will need to be sent to another hospital for definitive treatment
- All health centres should develop and maintain a clear, pre-existing plan for how patients will be transported, and to which hospital they will be sent

Key considerations

- There should always be a clear reason for patient referral, and this should be recorded in both the patient's notes, and in the referral letter.
- Patient transport should not put the patient at additional risk or reduce the level of patient safety
- Referral should be to a facility that provides a higher level of care
- Patients at risk of life-threatening problems such as bleeding, neurotoxicity, shock or renal failure should always be accompanied by medical staff trained in basic emergency life support

Timing of medical referrals

- A patient who needs referral should be send onward as soon as possible
- Don’t wait for complications to occur!
- Specific timing:
  - after first aid (immobilisation or PIB) applied
  - once you have resuscitated Airway, Breathing and Circulation, in that order, to the best of your ability & resources
- Do not wait until the patient has deteriorated before initiating referral or they may die enroute
- Early referral saves limbs and saves lives!

Types of transport

- Carried by stretcher
- Private vehicles:
  - Motorcycles
  - Buffalo carts
  - Tractors
  - Cars and trucks
- Ambulances
- Government vehicles
- Boats
- Aerial retrieval in rare situations (i.e.: military)

Criteria for referral (1)

- Does the health facility have the resources to treat the patient?:
  - Essential drugs and medical supplies
  - Equipment (diagnostic, treatment delivery and life support)
  - Staff with the necessary knowledge and experience to provide treatment and make informed decisions
- If the answer to any of these points is no, then early referral to a better facility should be a priority once the patient is stabilised

Criteria for referral (2)

- Will referral of the patient result in a significant improvement in patient care, or provide access to an essential, but locally unavailable medical service?
  - If the answer is yes, then referral is appropriate
  - If the answer is no, reconsider referral of this patient

Patient safety (1)

- Will the safety of the patient be compromised by attempting to transport them to another facility?:
  - Is the patient clinically unstable?
    - Is there severe bleeding?
    - Is the patient shocked?
    - Does the patient has airway and breathing problems?
  - Will it be possible to provide emergency treatment to the patient in the type of transport that is available?
    - If not, are there any alternatives available?
  - Are the road conditions suitable to ensure that the patient can reach the referral hospital?
    - Is there a risk of the vehicle getting bogged or stopped by floods

Patient safety (2)

- A clinically unstable patient should not be moved until the immediate risk has reduced:
  - Shocked patients or those with severe bleeding require adequate fluid resuscitation to maintain cerebral perfusion (i.e: a minimum BP of 80/60)
  - Airway and/or breathing support for paralysed patients
- Obtain qualified medical advice from an expert
  - Consider the need to have the patient retrieved by ambulance and a medical team
- Is it safer to delay referral until the patient is more stable, or is it a case of ‘now or never’?

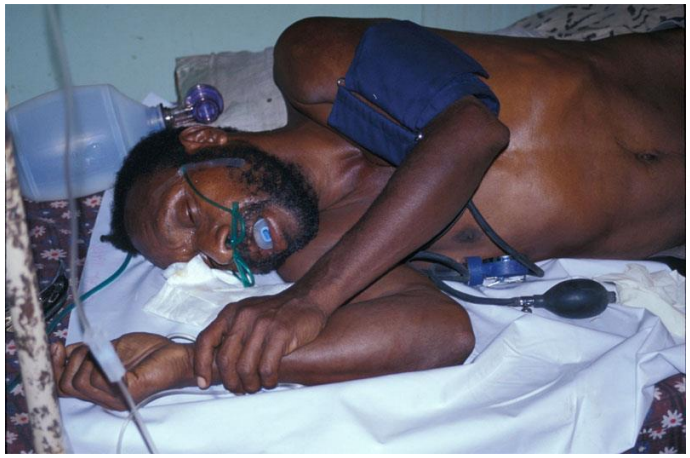
Stabilising shocked or bleeding patients

- Patients bitten by some species of pit viper may present with hypovolaemia and vasodilatation leading to hypotension and shock
- This may be due to migration of circulating fluid into the swollen limb, or may be the result of external or internal haemorrhage
- Emergency resuscitation with crystalloid or colloid should be carried out as detailed elsewhere in this course.
- Endeavour to maintain a minimum blood pressure of 80/60 mmHg

Stabilising shocked or bleeding patients

- If antivenom is available it should be given without delay to neutralise circulating toxins that contribute to coagulopathy
- Be careful not to overload the patient with fluids as this may lead to additional complications
- Patients in whom increased capillary permeability is suspected may benefit from administration of i.v.i. dopamine (2.5-5.0 µg/kg/min)
- When stable transport the patient while continuing to monitor bleeding and blood pressure, and with adequate intravenous fluid to continue treatment

Patients with airway/breathing problems



- Protect the airway!
  - Posture, chin lift or head tilt to improve air entry
  - Guedel's airway devices
  - Oropharyngeal airways
  - Laryngeal masks
  - Endotracheal intubation
- Support breathing
  - Supplementary oxygen
  - Ambu Bag ventilation
  - Mechanical ventilation
- Transport only if the airway is secure and breathing can be supported by trained staff

Preparation for patient referral (1)

- Organise transport:
  - What type of transport is necessary? Is it available?
  - If not, what are the alternatives?
  - Basics: vehicle with fuel, driver, spare tyre, mobile phone
  - Check that road conditions & weather appropriate
  - Who will accompany the patient?
- Prepare the patient:
  - First aid measures in place and patient stable as possible
  - If antivenom is available, administer before departure
  - airway & breathing managed appropriately
  - circulation: nil by mouth, IV line secured well, IV fluids

Preparation for patient referral (2)

- Ensure staff are ready:
  - Adequately trained & experienced to manage circulation problems, airway and breathing enroute
  - Do they have personal items & money ready
  - Are their shifts covered
  - Have arrangements been made for their return
  - if you absolutely cannot send a staff member with the patient, reconsider the need to refer the patient, or consider waiting until you can send a staff member
- Drugs & equipment ready in box/bag
  - Adequate i.v. fluids, sphygmanomometer, stethoscope
  - Airway equipment, oxygen, suction pump & attachments
  - Flashlight or lantern (for night transfers)

Preparation for patient referral (3)

- Communication complete:
  - Consult the referral hospital for advice **before** you send the patient onwards
  - Ensure that they have the capacity and resources to be able to accept the patient
  - Once referral is confirmed, prepare documentation
- Documentation:
  - referral letter
  - copy of notes, snakebite admission sheet or snakebite observation sheet
  - Chest X-Ray if available, especially for intubated patients

Referral letters

- In addition to clinical notes that are sent with patient, send a referral letter that includes:
  - Date & time
  - Name of referring person, referring facility
  - Name of the doctor the patient is being referred to
  - Telephone call details, telephone number for feedback
  - Name and details of patient
  - Summary of history (bite history, symptoms and signs), examination, results and times of investigations
  - Any information about type of snake suspected
  - Summary of treatments given, timing & response
  - Details of improvement or deterioration
  - Reasons for referral

Patient care during transport

- Position the patient in a sitting position if they have no airway or breathing problems
- If the airway is compromised, lay them on their side, with the head supported and tilted slightly downwards to prevent aspiration of mucus/saliva
- Hang the I.V. fluid bag and monitor it
- Staff member should remain with the patient so that emergency treatment can be given if needed
- If no staff member accompanies the patient, and the referral is urgent, then a family member must be taught to provide basic life support.

Summary (1)

- Have a clear reason for referral of the patient (i.e.: to obtain antivenom treatment, or gain access to a ventilator)
- Be sure that referral will result in an improvement in care for the patient, and that the transport of the patient does not place them at greater risk
- If referral is necessary, do it as soon as possible
- Choose appropriate transport
- Ensure that the patient meets the criteria for referral to another hospital

Summary (2)

- Do not refer the patient until they are clinically stable in terms of airway, breathing and circulation
- Be well prepared:
  - Organise transport
  - Prepare the patient
  - Ensure staff are ready to travel with patient
  - Assemble necessary drugs and equipment
  - Communicate with the referral hospital and prepare the documentation
- Care for the patient during transport