Management of Autonomic Dysreflexia

Information for Health Professionals and People with Spinal Cord Injury

What is Autonomic Dysreflexia?

This is a condition of sudden high blood pressure, in people with a spinal cord injury at the level of T6 and above, which may continue to rise and may cause a brain haemorrhage or fits.

The normal BP for this group of people is commonly 90/60 – 100/60 lying and lower when sitting. A BP of 130/90 is therefore high for them. If untreated it can rapidly rise to extreme levels, e.g. 220/40.

Symptoms and Signs

The person may present with all or some of the following:

- **Pounding headache, which gets worse as the blood pressure rises**
- Blurred vision
- Flushing and blotching of the skin above the level of the spinal cord injury
- Profuse sweating
- Goosebumps
- Chills without fever
- Bradycardia (slow pulse rate)
- Hypertension

Common Causes

- Bladder irritation e.g. distended bladder, urological procedure, urine infection
- Bowel irritation e.g. distended rectum, chemically irritant suppositories
- Skin irritation e.g. pressure sore, ingrown toenail, burns
- Other e.g. contracting uterus, fractured bones, acute intra-abdominal disease

Patients and carers know about this condition and often can suggest the cause.

Ask them.

Ask if the patient has just taken a drug to control the autonomic dysreflexia.

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Treatment

Two people are required to control the situation

1. **Sit upright or elevate the head of the bed.** Loosen clothes and remove compression stockings and abdominal binder.
2. **If the person has an IDC or SPC:**
    i. Empty leg bag and estimate volume. To determine whether or not the bladder is empty, ask if volume is reasonable considering fluid intake and output earlier that day.
    ii. Check that the catheter or tubing is not kinked or flow is not impaired by a blocked inlet to the leg bag or perished valve in the leg bag.

    If the blood pressure is > 170 mm systolic, start drug therapy (see 5).

    iii. If the catheter is blocked, irrigate GENTLY with no more than 30 mls of sterile water. Drain the bladder slowly – 500 ml initially and 250 ml each 15 minutes afterwards to avoid a sudden drop in blood pressure.

    If this is unsuccessful, recatheterise, using a generous amount of lubricant containing a local anaesthetic, e.g. 2% lignocaine (Xylocaine) jelly.

    iv. If the blood pressure falls after the bladder is emptied, the person still requires close observation as the bladder can go into severe contractions causing hypertension to recur. Consider given an oral anticholinergic medication e.g. Oxybutynin HCL.
    v. **Monitor the blood pressure** for the next 4 hours.
3. **If the person does not have a permanent catheter:**

    If the bladder is distended, lubricate the urethra with a generous amount of local anaesthetic jelly e.g. lignocaine (Xylocaine) jelly, wait two minutes, then pass a catheter to empty the bladder. Drain the bladder slowly (see 2 iii)
4. **If constipation is suspected, check the rectum for faecal loading:**
    i. If the rectum is full, check the blood pressure before attempting manual evacuation – **if it is more than 150 mm systolic, start drug treatment (see 5).**
    ii. Gently insert a generous amount of lignocaine jelly into the rectum and gently remove the faecal mass – **note: if symptoms are aggravated stop immediately.**
    iii. **If no response,** i.e. If the elevated blood pressure does not start to fall within 1 minute of the above procedures, or the cause cannot be determined, treat as follows:
5. **Glyceryl trinitrate**

    NB: DO NOT use glyceryl trinitrate if sildenafil (Viagra) or vardenafil (Levitra) has been taken in the previous 24 hours or tadalafil (Cialis) in the previous 4 days.

    Give one spray of glyceryl trinitrate (Nitrolingual Pump spray) under the tongue. During administration the canister should be held uptight and the spray should not be inhaled.

    OR

    Apply 5 mg, transdermal patch to chest and upper arms according to manufacturer's instructions. Remove patch once BP settles or if the BP drops too low.

The hypotensive response should begin within 2 to 3 minutes and last up to 30 minutes. A second spray/ tablet may be given in 5 – 10 minutes if the reduction in the blood pressure in inadequate or if the blood pressure rises again.

NOTE: if glyceryl trinitrate is not available or is contraindicated (e.g. within 24 hours of sildenafil use), give one 25mg of Captopril under the tongue.

Avoid sildenafil (Viagra), vardenafil (Levitra) and tadalafil (Cialis) for at least 48 hours after a severe episode of autonomic dysreflexia.

If glyceryl trinitrate or captopril do not lower the blood pressure sufficiently AND

The cause of the autonomic dysreflexia has not been identified, please contact for further advice:

The On Call Consultant

Spinal Injuries Unit, Princess Alexandra Hospital Ipswich Road, Woolloongabba, Qld, 4102 Ph:

(07) 3176 5061 OR

After Hours: Ph (07) 3176 2111 and ask for the on-call Medical Officer for the Spinal Injuries Unit

OR

Arrange transport to the nearest emergency department

All recommendations are for people with a spinal cord injury at the 6th thoracic level or above. Individual therapeutic decisions must be made by combining these recommendations with clinical judgement.

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