Health Department

URGENT MESSAGE TO:

1. All Directors of Public Health
2. Consultants in Public Health Medicine (CD&EH)
3. Medical Directors of NHS Trusts
4. Director, SCIEH
5. NHS24

ST ANDREW’S HOUSE
REGENT ROAD
EDINBURGH EH1 3DG

Telephone: 0131-244 2270
Fax: 0131-244 3477
e.mail: andrew.fraser@scotland.gsi.gov.uk
http://www.scotland.gov.uk

Date: 1 November 2002

CLUSTER OF WOUND BOTULISM CASES IN INJECTING DRUG USERS

Please find attached for urgent transmission (see list below) a copy of a message from the Director of PHLS Communicable Disease Surveillance Centre, England about a cluster of wound botulism cases in injecting drug users.

1. Please could Medical Directors in NHS Trusts forward on to:
   • All General Practitioners, and out of hours services – please ensure this message is seen by all practice nurses and non-principals working in your practice and retain a copy in your “locum information pack”.
   • Staff in A&E Departments, Intensive Care Units, High Dependency Units
   • Consultant Microbiologists
   • Consultant Neurologists
   • Consultant Pathologists (in the event of sudden unexplained deaths in IDUs)

2. Please could Directors of Public Health forward the message to:
   • Chief Executives, NHS Boards
   • Services for drug misusers

3. Please could CPHMs (CD&EH) forward to:
   • All those participating in NHS Board on-call rotas.

Thank you for your co-operation.

Yours sincerely

[Signature]

DR ANDREW FRASER
Deputy Chief Medical Officer
From Professor Angus Nicoll, Director of PHLS Communicable Disease Surveillance Centre
31 October 2002

CLUSTER OF WOUND BOTULISM CASES IN INJECTING DRUG USERS

Organism: Clostridium botulinum
Patient group: Injecting drug users
Place: UK and Ireland
Status: Ongoing
Number of cases: Thirteen since the start of 2002

Background
Thirteen clinically diagnosed cases of wound botulism in injecting drug users (IDUs) in the UK and Eire [one in Scotland] have been reported to the PHLS Food Safety Microbiology Laboratory (FSML) since the beginning of 2002. Six of these cases have been reported since 1st August 2002 of which four are from the Southwest of England. All cases had a flaccid paralysis. These cases may be caused by a batch of drugs contaminated with the anaerobic bacterium Clostridium botulinum. Reports of wound botulism in IDUs are a relatively new phenomenon with no clinically diagnosed cases in the UK and Eire up to the end of 1999, six reports in 2000 and four in 2001.

Causative organism
The symptoms of botulism are caused by a toxin produced by the anaerobic spore forming bacterium Clostridium botulinum. The toxin blocks the release of acetylcholine at the neuromuscular junction resulting in a descending flaccid paralysis. Botulism is not spread from one person to another.

There are three naturally occurring forms of botulism:
- Food-borne botulism, caused by ingestion of pre-formed toxin.
- Wound botulism, which occurs when C. botulinum spores contaminate a wound, germinate and produce toxin in vivo.
- Intestinal colonisation botulism, usually seen in infants, caused by growth of C. botulinum and production of toxin in vivo.

Clinical features
The key clinical syndrome produced by botulinum toxin is an afebrile, descending, flaccid paralysis. Patients with botulism typically present with difficulty speaking, seeing and/or swallowing. They may have double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, and muscle weakness. If untreated, paralysis may progress to the arms, legs, trunk and respiratory muscles. There is usually no fever, no loss of sensation and no loss of awareness. There may also be autonomic signs with dry mouth, fixed or dilated pupils, and cardiovascular, gastrointestinal and urinary autonomic dysfunction. If onset is very rapid, there may be no symptoms before sudden respiratory paralysis occurs, which may be fatal. Recovery can take months. Clinicians should suspect botulism in any patient with an afebrile, descending, flaccid paralysis.
Laboratory diagnosis
Confirmation of the clinical diagnosis is by the demonstration of botulinum toxin in blood samples or, in the case of wound botulism, by the identification of *C. botulinum* in wound specimens. Routine laboratory tests are not helpful and specimens should therefore be sent immediately to the reference laboratory.

Samples to be taken from acutely ill patients include:
- **Serum.** At least 10ml. Serum samples must be collected before antitoxin is administered.
- **Wound.** Pus. As much as possible in a sterile container. If pus is not available, a swab of the lesion should be taken and put immediately into a transport medium for anaerobic culture.
- **Biopsy tissues.** If surgical debridement is performed, biopsy tissues should be placed immediately into a sterile container.
- **Post mortem specimens.** Heart blood (10ml), if not haemolysed, should be sent for serum for serum collection. Specimens from infected wounds may also be useful.

All samples must be kept refrigerated after collection.

All specimens should be sent directly to the reference laboratory with the sender’s name and address clearly marked. The reference laboratory should be telephoned prior to sending the sample.

Reference laboratory for botulinum toxin testing:
Dr Moira Brett
Food Safety Microbiology Laboratory.
Central Public Health Laboratory
61 Colindale Avenue
London, NW9 5HT
Tel: (+44) 020 8200 4400 ext 4933/4116
E-mail: mbrett@phls.nhs.uk

Out of office hours, laboratory personnel can be contacted through the PHLS Communicable Disease Surveillance Centre (CDSC) duty doctor on 020 8200 6868.

Clinical management
Specialist advice should be urgently sought from an Infectious Diseases Physician. Botulinum antitoxin is effective in reducing the severity of symptoms if administered early in the course of the disease. *C. botulinum* is sensitive to benzyl penicillin and metronidazole. In cases of wound infection, antimicrobial therapy and surgical debridement should reduce the organism load and therefore toxin production, but circulating toxin can only be neutralised by the early administration of antitoxin. Where there is definite clinical suspicion of botulism, treatment with antitoxin should not be delayed for microbiological testing. Details of centres around the country that hold antitoxin are listed in the SCIEH Public Health Directory. Out of hours, sources of antitoxin can be identified by contacting the SCIEH duty doctor on 0141-300 1100 or 0141-211 3600.
Preventative measures
The risk of death in individuals presenting with wound botulism may be reduced if supportive therapy and antitoxin are provided promptly. Increased awareness amongst clinicians may facilitate prompt diagnosis and treatment.

Wound botulism is thought to occur in IDUs when heroin is contaminated with *C. botulinum* and anaerobic conditions exist at injection sites. The following advice may reduce the risk of wound botulism in IDUs:

- If you must take heroin, smoke it instead of injecting.
- If you must inject, do not inject into muscle or under the skin: make sure you hit the vein - your blood is better at killing bacteria than your muscle.
- Don’t share needles, syringes, cookers/spoons or other ‘works’ with other drug users.
- Use as little citric acid as possible to dissolve the heroin. A lot of citric acid can damage the muscle or the body under the skin, and this damage gives bacteria a better chance to grow.
- If you inject more than one type of drug, inject each at a separate place on your body and with clean works for each injection. This is important because certain drugs (e.g. cocaine) could give bacteria in heroin a better chance to grow.
- If you get swelling, redness, or pain where you have injected yourself, or pus collects under the skin, you should get a doctor to check it out immediately, especially if the infection seems different to others you may have had in the past.

Reporting & public health investigation

Since food borne botulism constitutes a public health emergency, food must be excluded as a source for all cases of botulism. The PHLS Communicable Disease Surveillance Centre has prepared a detailed questionnaire that CCDCs can use to obtain information on clinical presentation, food history and injecting behaviour from all suspected cases of botulism. Food samples associated with suspected cases of food borne botulism must be obtained as a matter of extreme urgency in order to prevent further cases.

Samples of heroin can be tested by the PHLS for the presence of microbial contamination. If the police are in possession of drugs believed to be associated with suspected cases of wound botulism, please contact the SCIEH for advice.

Clinicians and CCDCs [CPHM (CD&EH)] are asked to report any suspected cases of botulism to Moira Brett at the PHLS FSML (tel: 020 8200 4400 ext 4933) or Sarah O’Brien / Peter Horby at the PHLS CDSC (tel: 020 8200 6868 ext 4422 / 8076). Out of hours, suspected cases should be reported to the CDSC duty doctor on 020 8200 6868. Please also ensure that SCIEH is informed.