RISKS POSED BY MYSTERY ILLNESS

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Patients may present with unknown illness caused by accidental or deliberate release of biological, chemical or radioactive material or a new/emerging disease. Nurses must be aware of the protocols to follow to ensure their own safety and that of other patients. This article discusses the national advice in dealing with incidents or outbreaks of unusual illness.

Nurses need to be prepared to deal with patients who present with unknown illnesses in order to ensure the safety of other patients and themselves. The issue was recently highlighted by the death of former spy Alexander Litvinenko, when the Health Protection Agency (HPA) discovered a significant quantity of polonium-210 in his body. Staff had been treating Mr Litvinenko for three weeks without being sure of what exactly was causing his illness, and almost 50 members of staff have now been asked to provide urine samples as a precaution.

Unknown illnesses may be caused by a natural phenomenon such as an emerging disease or by deliberate release of biological, chemical or radioactive agents. The HPA (2004) offers detailed guidance on initial investigation and management of outbreaks and incidents of unusual illnesses.

PRESENTATION

Patients presenting with unusual illness may have symptoms that do not fit any known clinical picture or have a set of symptoms that do not normally present in the UK.

The illness may present as an outbreak – a greater number of cases than would normally be expected over a given time or a number of cases linked by specific features.

Healthcare staff should have a high level of awareness of the potential for such outbreaks or incidents and seek expert advice as quickly as possible (HPA, 2004). News and information for emergency practitioners is available from the Civil Contingencies Secretariat (www.ukresilience.info).

BIOLOGICAL AND CHEMICAL AGENTS

Examples of biological agents that may be deliberately released include anthrax, plague and smallpox. Chemical agents that could be released deliberately include nerve agents and ricin. It is not possible for healthcare staff to have a full working knowledge of all such agents but it is important to keep a high index of suspicion. Further information on these agents is available on the deliberate release section of the HPA website (www.hpa.org.uk).

RADIATION EXPOSURE

Exposure to a radioactive source may not be immediately apparent and may be external or internal (radioactive material taken in through ingestion, inhalation or through a wound).

It is unlikely that a residual radiation dose from a material inside the patient or in excreta, bodily fluids or clinical samples poses a serious threat to others but this must be monitored.

If a patient is concerned they may have been exposed to radioactivity they can be considered for testing but the local Health Protection Unit (HPU) will advise (Chief Medical Officer, 2006).

ACCIDENTAL OR DELIBERATE

An outbreak or unusual incident may be the result of an accident or natural phenomenon. Several factors may indicate deliberate release including:

- A number of people with the same illness at the same time;
- A number of cases of unexplained disease or death;
- Higher than expected morbidity or mortality from a common disease or syndrome;
- Failure to respond to usual therapy;
- Atypical transmission routes, for example food or water;
- Single case of disease caused by an uncommon agent.
ASSESSMENT

For all cases of unusual illness (acute or delayed presentation) the HPA advises:
- Always seek early advice from experts;
- Inform the local HPU;
- Assess again after advice and take clinical samples using universal precautions;
- Admit patient to single room or isolation ward if possible.

The role of the clinician is to diagnose the illness, establish a management plan, consider the risks of transmission to staff and other patients, carry out appropriate investigations and treatment and take samples as advised.

A clinical history is essential including:
- Where the patient lives and works;
- Where she or he has been recently;
- If she or he has travelled and if so how;
- If she or he has attended any events;
- Where she or he has been recently;
- Where the patient lives and works;
- If she or he has had any exposure to particular food, drink or drugs;
- If she or he has had any contact with animals or other ill people;
- If she or he has done anything new or strange recently.

Samples should be taken for a ‘blind screen’ for toxicological and microbiological investigations as well as routine haematology and biochemistry. Appropriate samples include blood cultures, sera, whole blood and urine.

Depending on presenting features it may also be pertinent to take other samples such as nose and throat swabs. Samples should be collected (using universal precautions in all cases), before treatments are given if possible, although life-saving treatment should not be delayed. All samples should be labelled high-risk (HPA, 2004).

COMMUNICATION

As soon as a healthcare professional suspects an incident of unusual illness she or he should involve the senior consultant and the local HPU should be notified. If deliberate release is suspected the consultant in communicable disease control has the responsibility for informing the police.

Precautions must be in place after decontamination but it is possible that casualties who have not been decontaminated will turn up in A&E. The Department of Health (2001) has issued a standard response protocol for decontamination in hospitals. Health workers dealing with patients before decontamination must wear full personal protective equipment, reassign pregnant staff and do not handle unfamiliar objects or embedded fragments directly.

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When illness is due to an unknown agent, patients should, wherever possible, be nursed in a single isolation room. Transport of patients should be limited.

Universal precautions must be in place at all times to prevent the spread of infection and these should be strictly adhered to in the case of unknown illness.

DECONTAMINATION

Decontamination is vital for preventing secondary contamination in an acute incident where a chemical, biological agent, or radionuclide source is likely. Under normal circumstances medical assessment will take place after decontamination but it is possible that casualties who have not been decontaminated will turn up in A&E. The Department of Health (2001) has issued a standard response protocol for decontamination in hospitals. Health workers dealing with patients before decontamination must wear full personal protective equipment or if they have been exposed to patients without wearing protective equipment they must be decontaminated.

After decontamination, universal precautions must be adhered to.

CONCLUSION

When a patient presents with an unknown illness her or his welfare is a priority but the safety of health professionals must also be considered. The local HPU must be informed and advice obtained on what measures should be put in place to ensure staff safety.