RICIN, POWDER - USA: (WASHINGTON DC)

A ProMED-mail post
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Source: My Fox DC [edited]
<http://www.myfoxdc.com/story/25022171/georgetown-university-says-suspicious-substance-had-ricin#axzz2wSoSOp25>

Officials at Georgetown University [in Washington DC] say a substance in a dorm room has tested positive for ricin. University Chief of Police Jay Gruber said in an email Wednesday [19 Mar 2014] that no one has reported any symptoms of ricin exposure since the possibility of ricin was reported Tuesday [18 Mar 2014] in McCarthy Hall.

Gruber said swabs were collected from the dorm room and analysis of those sample swabs did not show any biological threat agents. The chief said the room was decontaminated and all areas of McCarthy Hall have reopened to students. He said there were no immediate threats to members of the Georgetown community.

Statement from Georgetown University Chief of Police Jay Gruber:
Early Tuesday morning [18 Mar 2014], the Georgetown University Police Department was made aware that a student reported having ricin in that student's room in McCarthy Hall. Local and federal authorities were notified and began investigations. The reported substance was recovered from the room and tested positive for ricin. Additionally, swabs were collected by DC Fire and EMS and the FBI in the student's room throughout the day on Tuesday, and all analysis of those sample swabs was negative for any biological threat agents. We are now able to reoccupy all areas of McCarthy Hall.

There is no immediate threat to members of the Georgetown community.

In an abundance of caution, the university secured contractors who specialize in decontamination of biological threat agents to clean the room under investigation where the contained substance was recovered.

In addition, the university consulted with the DC Department of Public Health, which informed us that anyone exposed to ricin would have presented with severe symptoms within 24 hours. This window has passed and there are no reports consistent with ricin exposure.

I would also like to thank all members of our community, especially the residents of McCarthy Hall, for their patience and cooperation.

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Communicated by:
Ricin is a poison found naturally in castor beans. If castor beans are chewed and swallowed, the released ricin can cause injury. Ricin can be made from the waste material left over from processing castor beans. It is a potent protein derived from the beans of the castor plant (_Ricinus communis_). Castor beans are used in the production of castor oil, a brake and hydraulic fluid constituent. The aqueous phase of the process, termed the "waste mash," is 5-10 percent ricin. Ricin works by getting inside the cells of a person's body and preventing the cells from making the proteins they need, hence, it is often called a toxalbumin. Without the proteins, cells die. Eventually this is harmful to the whole body, and death may occur.

Castor oil does not contain ricin.

Ricin can be in the form of a powder, a mist, or a pellet, or it can be dissolved in water or weak acid. It is a stable substance under normal conditions, but can be inactivated by heat above 80 deg C [176 deg F].

Ricin has been used experimentally in medicine to kill cancer cells.

Effects of ricin poisoning depend on whether ricin was inhaled, ingested, or injected. The major symptoms of ricin poisoning depend on the route of exposure and the dose received, though many organs may be affected in severe cases. Initial symptoms of ricin poisoning by inhalation may occur within 8 hours of exposure. Following ingestion of ricin, initial symptoms typically occur in less than 6 hours.

Inhalation: within a few hours of inhaling significant amounts of ricin, the likely symptoms would be respiratory distress (difficulty breathing), fever, cough, nausea, and tightness in the chest. Heavy sweating may follow as well as fluid is building up in the lungs (pulmonary edema). This would make breathing even more difficult, and the skin might turn blue. Excess fluid in the lungs would be diagnosed by x-ray or by listening to the chest with a stethoscope. Finally, low blood pressure and respiratory failure may occur, leading to death. In cases of known exposure to ricin, people having respiratory symptoms that started within 12 hours of inhaling ricin should seek medical care.

Ingestion: if someone swallows a significant amount of ricin, he or she would develop vomiting and diarrhea that may become bloody. Severe dehydration may be the result, followed by low blood pressure. Other signs or symptoms may include hallucinations, seizures, and blood in the urine. Within several days, the person's liver, spleen, and kidneys might stop working, and the person could die. A chronic low level could explain the woman's condition and made it difficult to get an accurate diagnosis.

Skin and eye exposure: ricin is unlikely to be absorbed through normal skin. Contact with ricin powders or products may cause redness and pain of the skin and the eyes.
Death from ricin poisoning could take place within 36 to 72 hours of exposure, depending on the route of exposure (inhalation, ingestion, or injection) and the dose received.

If in suspected situations where ricin may have been disseminated, preliminary environmental testing by public health or law enforcement authorities may detect ricin in powders or materials released into the immediate environment. Persons occupying such areas may initially be observed for signs of ricin poisoning.

No widely available, reliable medical test exists to confirm that a person has been exposed to ricin.

Because no antidote exists for ricin, the most important factor is avoiding ricin exposure in the first place. If exposure cannot be avoided, the most important factor is then getting the ricin off or out of the body as quickly as possible.

Symptomatic ricin poisoning is treated by giving victims supportive medical care to minimize the effects of the poisoning. The types of supportive medical care would depend on several factors, such as the route by which victims were poisoned (that is, whether poisoning was by inhalation, ingestion, or skin or eye exposure). Care could include such measures as helping victims breathe, giving them intravenous fluids (fluids given through a needle inserted into a vein), giving them medications to treat conditions such as seizures and low blood pressure, flushing their stomachs with activated charcoal (if the ricin has been very recently ingested), or washing out their eyes with water if their eyes are irritated.

Portions of this comment were extracted from <http://www.bt.cdc.gov/agent/ricin/facts.asp>. - Mod.TG

A HealthMap/ProMED-mail map can be accessed at: <http://healthmap.org/promed/p/6950>.}