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[Home](#) > RICIN IN INDIAN CONTEXT : Could become a potent weapon in the hands of terrorists.

RICIN IN INDIAN CONTEXT : Could become a potent weapon in the hands of terrorists.

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(This paper may be read along with another paper already published in www.saag.org/papers6/paper580.html)

The residue of the ricin on the production process, not the ricin itself seized from Green Wood, London has shocked the world and alerted a possibility of its use by the terrorists.

Easy availability and low technology would make the use of ricin for a biological attack a distinct possibility in the Indian context. It is said that the potency of ricin is twice that of venom of a Cobra.

What is ricin?

It is a potent protein toxin extracted from widely available beans of castor plant *Ricinus communis*. The seeds of this plant produce maximum quantity of ricin than the other parts. Ricin inhibits protein synthesis by acting on the cell surface glycoprotein and leads to cell death. The severity of the effect depends on the mode of its exposure. Parental exposure is supposed to be the most fatal followed by gastric (GIT) than dermal as the strong solvent has to be mixed with ricin for the absorption and lastly the aerosol exposure, which is weak and a large quantity is needed for its required effect. Ricin as a biological weapon could be designed to be used either as a targeted assassination weapon, or in a limited space for maximum effect. However it is to be noted that ricin is usable as a weapon of mass disruption and not destruction.

Why ricin is a highly usable weapon?

The plant is commercially used for the production of castor oil for its laxative effect by convulsing the gastric muscles. It is widely used as a lubricant in the industries including leather, cosmetic etc. However, ricin as a disabling agent could be dangerous for the following reasons.

- * On molecular scale it would be rated to be the most toxic of all molecules and even a small grain of salt will work. It is believed to be 6000 times more toxic than cyanide.
- * It is easily available, inexpensive and the information for its preparation are available on Internet and known to any chemistry graduate.
- * It can be prepared in any form liquid, crystalline or it can be lyophilized to make it a dry powder.
- * The mortality/morbidity depends on the amount and the route of exposure.
- * It can be used as water or food contaminant.
- * Diagnosis is difficult, as the initial symptoms of its attack are the same as flu.
- * **No antidote is presently available.**

Weaponisation of ricin- History

- * For ages ricin has been used for killing livestock.
- * During World War I, the USA included it in their Biological and Chemical Warfare Services.
- * In World War II, Great Britain made a ricin bomb, but did not use it.
- * In 1978 it was used to assassinate Bulgarian dissident Georgi Markov. A ricin loaded umbrella was used as a weapon.

- * In 1991 four members of Patriots Council, an extremist group plotted to kill a US Marshal by smearing ricin mixed with the solvent (dimethylsulphate) on the handle of his vehicle in Minnesota.
- * The Russians were suspected to have killed a Chechen rebel Amir Khattab by sending a letter impregnated with ricin.
- * In 1995 a man in Alaska was caught with a container of this white powder.
- * It is now known that there were plans to use ricin as a weapon by Osama bin Laden's terrorists network. Some literature and equipment were found in a house deserted by them after Taliban's fall in November 2001.

Iraq and ricin:

In August 2002, US officials blamed Iraq for possessing ricin and stockpiling as a weapon for use against Kurds in northern Iraq. Five years ago, United Nations weapons inspectors listed ricin among weapons they believe Iraq had hoarded. The Fallujah III plant in Iraq is understood to produce castor oil - with easy potential to make ricin. Presently it is alleged that Iraq is quite prepared for using ricin as a weapons in any war.

The ricin incident in London:

On January 5, 2003 once again after 25 years in London, that the Ricin threat has reappeared. The people caught by British Police are all believed to be from Algeria. Official sources believe that Algerian fundamentalists are among the most prolific, ruthless and well organised of the shadowy Al Qaeda network operating in Europe. European intelligence sources have told The Independent on Sunday 12 January 2003 that they are "extremely concerned" that a number of North African terror cells linked to Al-Qaida are active in London and other European cities and plotting attacks.

This low technology, easily available weapon 'ricin' poses to them a greater threat than high technology nuclear weapon.

Is India Prepared?.

Use of ricin as a biological weapon and its potency has not yet been fully realized in India. Besides South Africa from where the Castor Plant originated, the Indian subcontinent has a wide variety of them and available throughout India. It is grown widely along the roadside in many places. Ricin has been used in India to kill cattle. Metal nails were used to inject the poison. The question that arises is whether Indian authorities are fully prepared for a ricin attack? This concern emerges for the following reasons-

- * Are the police and Government ready for such type of attack?
- * Ricin can be prepared clandestinely in the laboratory or at home. There is no check either on the industries.
- * The diagnosis of any such attack is difficult at the village, town or city level.

- * India, being densely populated, once attacked the damage inflicted will be much more and it will be difficult to manage.

- * Imagine if water or food is contaminated, are the water and other sources secure?

- * Are the police and Government ready for such type of attack?

- * Are the hospitals and doctors prepared to face such a disaster both in diagnosing and managing it?

- * Is the communication system between the medical and common man efficient enough for early detection and remedial action?

- * Lastly, is the public aware of such a kind of situation so that it can be reported and managed at the first line of defence?

After anthrax attacks, discovery of ricin in unscrupulous hands should make us realize that it is a real and an active threat to Indian security that cannot be ignored.

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Topics:

WMD ^[2]

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