Plague as a weapon

by Bend_Weekly_News_Sources

SciÂ-enÂ-tists are worÂ-ried that a disÂ-ease asÂ-soÂ-ciÂ-atÂ-ed with devÂ-asÂ-tatÂ-ing meÂ-diÂ-eÂ-val epiÂ-demics may make a comeÂ-back as a weapÂ-on.An arÂ-tiÂ-cle in this weekâ€™s isÂ-sue of the medÂ-iÂ-cal jourÂ-nal The LanÂ-cet disÂ-cusses the posÂ-siÂ-bilÂ-iÂ-ty that the bacÂ-teÂ-riÂ-um reÂ-sponÂ-siÂ-ble for plagueâ€”known in the MidÂ-dle Ages as the Black Deathâ€”could serve as a bioterÂ-rorÂ-ism agent.

Infections from the miÂ-crobe, YerÂ-siÂ-nia pesÂ-tis, take sevÂ-erÂ-al forms.In the arÂ-tiÂ-cle, Mike PrenÂ-tice of UniÂ-verÂ-siÂ-ty ColÂ-lege in Cork, IreÂ-land and LiÂ-la RaÂ-halÂ-iÂ-son of the PasÂ-teur InÂ-stiÂ-tute in AnÂ-taÂ-naÂ-naÂ-ri, MadÂ-aÂ-gasÂ-car, reÂ-viewed the bacÂ-teÂ-riÂ-umâ€™s geÂ-netÂ-ic makeÂ-up, hisÂ-toÂ-ry and modes of transÂ-misÂ-sion. ShootÂ-ing deadÂ-ly arÂ-rows, a shadÂ-owy figÂ-ure of death seals the fates of plague vicÂ-tims in this anonÂ-yÂ-mous 15th-century paintÂ-ing, AlÂ-leÂ-goÂ-ry of the Plague.

The miÂ-crobe mulÂ-tiÂ-plies in fleas that have fed on inÂ-fected anÂ-iÂ-malsâ€™ blood. This causes a blockÂ-age in the fleaâ€™s feedÂ-ing sysÂ-tem that makes the flea conÂ-tinÂ-uÂ-alÂ-ly reÂ-gurÂ-giÂ-tate and feed again, deÂ-livÂ-erÂ-ing the germ inÂ-to the blood of whatÂ-evÂ-er it is bitÂ-ingâ€”ofÂ-ten a roÂ-dent or a huÂ-man.BuÂ-bonÂ-ic plague, the most comÂ-mon form, has a sudÂ-den onÂ-set and causes dizÂ-ziÂ-ness, high feÂ-ver, painÂ-ful swellings and hemmhorÂ-ages. These someÂ-times turn black, acÂ-countÂ-ing for the name Black Death. The most wideÂ-spread epÂ-iÂ-demÂ-ic is esÂ-tiÂ-matÂ-ed to have killed three quarÂ-ters of the popÂ-uÂ-laÂ-tion of EuÂ-rope and Asia afÂ-ter startÂ-ing in ConÂ-stanÂ-tiÂ-noÂ-ple in 1334.AnÂ-othÂ-er form of inÂ-fecÂ-tion, pneuÂ-monÂ-ic plague, is quickÂ-ly faÂ-tal and is the onÂ-ly type diÂ-rectÂ-ly transÂ-misÂ-siÂ-ble from perÂ-son to perÂ-son, by air droplets reÂ-leased durÂ-ing coughÂ-ing or sneezÂ-ing. Plagueâ€™s abilÂ-iÂ-ty to spread via droplets makes posÂ-siÂ-ble aerosol-based weapÂ-ons caÂ-paÂ-ble of causÂ-ing wideÂ-spread pneuÂ-monÂ-ic plague outÂ-break, acÂ-cordÂ-ing to PrenÂ-tice and RaÂ-halÂ-iÂ-son. ExÂ-acÂ-erÂ-abatÂ-ing the danÂ-ger, they added, is the bacÂ-teÂ-riÂ-umâ€™s wide disÂ-triÂ-buÂ-tion, ease of culÂ-turÂ-ing, and availaÂ-bilÂ-iÂ-ty of exÂ-pert adÂ-vice from formÂ-er weapÂ-ons sciÂ-enÂ-tists.The disÂ-ease still preÂ-vails in parts of Asia and spoÂ-radÂ-iÂ-calÂ-ly ocÂ-curs elseÂ-where; an esÂ-tiÂ-matÂ-ed 2,500 cases are reÂ-ported anÂ-nuÂ-alÂ-ly.UnÂ-treatÂ-ed buÂ-bonÂ-ic plague kills 50 to 90 perÂ-cent of vicÂ-tims, the reÂ-searchÂ-ers said, though timeÂ-ly diÂ-agÂ-noÂ-sis and therÂ-aÂ-py cut those perÂ-centages to beÂ-tween five and 15. AnÂ-tibiÂ-otics are efÂ-fecÂ-tive, but a Y. pestis strain in MadÂ-aÂ-gasÂ-car shows disÂ-turbÂ-ing signs of havÂ-ing evolved reÂ-sistÂ-ance to some of these, they added. Some vacÂ-cines are in deÂ-velÂ-opÂ-ment, one of which has reached phase II triÂ-als, the midÂ-dle stage in the clinÂ-iÂ-cal triÂ-als proÂ-cess.Plague conÂ-trol efforts inÂ-volve monÂ-iÂ-torÂ-ing and reÂ-ducÂ-ing roÂ-dent popÂ-uÂ-laÂ-tions where plague perÂ-sists, the reÂ-searchÂ-ers wrote. But â€œreÂ-moval of the fleasâ€™ norÂ-mal food supÂ-ply by poiÂ-sonÂ-ing their usuÂ-al hosts can inÂ-crease huÂ-man conÂ-tact with starvÂ-ing fleas,â€• they added. Thus, â€œflea conÂ-trol by apÂ-pliÂ-caÂ-tion of inÂ-secÂ-tiÂ-cides in

plague outÂ-break arÂ-eas is alÂ-so imÂ-porÂ-tanÂ-t.â€•

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