and practice, infection control rate will be promoted using related educational programs.

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21.009

The Linear Behaviour of Pathogen Strain of *Bacillus anthracis* A0843 in Anthrax Subcutaneous Challenge on Rabbit Model

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Background: The pathogen strain of *Bacillus anthracis* A0843, isolated during an anthrax outbreak occurred in Italy, belongs to the Cluster A1a genotype 3. The authors show its activity underlining that the regular behaviour could make it useful as a reference strain for subcutaneous challenge in rabbit model for anthrax vaccines efficacy test. Italy doesn't use Ames strain because the restrictive measures, imposed after the bioterroristic events occurred in October 2001 in USA, reduced the movements of pathogen agents between reference laboratories in the world. It is necessary to adopt new rules that favour the security and the regularity of the research.

Method: This study was done, during 3 years, on 50 New Zeeland rabbits, males and females, with a weigh between 1.200 and 1500 grams. The site of injection was back in the space between the two scapulae. It was used 20 LD50 (about 40.000 spores) of the pathogen strain according to the European Pharmacopoeia.

Results: It was observed that anthrax begins to kills after 48 hours from the infection. At 72 hours the percentage of survival is 56,66%; at 96 hours is 30%. It was observed that two animals that survived after 120 hours from infection didn't die.

Conclusion: The LD50 of B. anthracis strain A0843 in rabbit is 2.000 spores, less virulent then Ames strain which is characterized of a LD50 of about 1.200 spores. The standard amount of 20 DL50 (about 40.000 spores) of B. anthracis strain A0843 injected in subcutaneous area in rabbits shows a linear behaviour. The higher mortality is observed between 72 and 96 hours. All the animals died within 120 hours from the infection. None of the infected animals survived over this time and we consider it the survival line of anthrax subcutaneous challenge in rabbit.

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This research was done in according to the *Decreto legislativo n.116/92* on animal welfare

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21.010

Aflatoxin B1 Production in Tissues in Experimental Invasive Aspergillosis Due to *Aspergillus flavus*

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Background: Aflatoxins are well-known secondary metabolites of the mould *Aspergillus flavus*, but it is not clear whether aflatoxins are produced in tissues in the course of invasive aspergillosis due to aflatoxinogenic *Aspergillus flavus* strains. We sought to determine whether aflatoxin B1 is produced in tissues in experimental invasive aspergillosis due to aflatoxinogenic *Aspergillus flavus*.

Methods: Corticosteroid-treated (immunosuppressed) Wistar rats received intravenous challenge with conidia from a known aflatoxin B1-producing strain of *Aspergillus flavus* (test rats) or with conidia from a aflatoxin non-producing strain of *Aspergillus flavus* (control rats). Animals were sacrificed after 10 days and key organs dissected out. Thin-layer chromatography was used to detect aflatoxin B1 in tissue homogenates; in addition, total protein concentration and protein profiles were determined. Histopathological studies were also done.

Results: Aflatoxin B1 was detected in concentrations of 120 ppb and 70 ppb, respectively, in homogenates of liver and kidney of test rats, but was not detected in tissue homogenates from control rats. The total protein concentration as well as the protein profiles of homogenates of the liver, kidneys, eyes and spleen of test rats tended to show much greater alterations than those in control rats. Invasion of tissue by fungal hyphae tended to be more intense in test than in control rats, while the histoarchitecture of liver, kidney and spleen tissues underwent greater disruption in test than in control rats.

Conclusions: Aflatoxin B1 is produced in tissues in experimental invasive aspergillosis due to aflatoxinogenic *Aspergillus flavus* and may account for the pronounced alterations in protein profiles and histoarchitecture compared to that occurring in invasive aspergillosis due to aflatoxin non-producing *Aspergillus flavus*.

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21.011

In Vivo Pharmacodynamic Characterization of T-705 in an Experimental Influenza Infection Model in Mice

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Background: T-705, an oral anti-influenza virus agent discovered by Toyama Chemical. Co., Ltd., and is currently under clinical development. T-705 exhibits in vitro and in vivo antiviral effect against influenza A and B. Further-