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SEROLOGICAL SURVEY OF HEPATITIS B IMMUNITY IN HEALTHCARE WORKERS IN MATERNIDAD PROVINCIAL "DRA TERESITA BAIGORRIA"

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Healthcare workers (HCW) are exposed to preventable infectious diseases, especially hepatitis B virus (HBV). Vaccination is the most cost-effective method of preventing and controlling HBV infection. In Argentina, vaccination against HBV is mandatory for HCW since 1992 (Law 24.151), it is incorporated into the immunization schedule for newborns from the year 2000 to contribute to the elimination and control of HBV, and in 2013 it was universalized. The aim of this study was to determine the immunity of HCW against HBV. A descriptive and prospective study was carried out with HCW, who stated they were vaccinated (1997-2019), at MPTB from August to September 2019. Exclusion criteria: HCW with hepatitis B surface antigen (HBsAg) reactive. Blood samples were used to measure antibodies against the HB surface antigen (anti-HBs) and HBsAg by ELISA using commercial kits the Biokit and Wiener lab respectively. Anti-HBs levels of ≥10 mIU/mL were considered reactive and protective. The statistical analyses were performed with the software GraphPad Prism 5.0. Of 151 randomLy selected HCW 82% (124) were females and 18% (27) males, the average age was 40 (range 25–67). The distribution according to professional category was: 30% (45) nurses, 16% (24) technicians, 13% (19) physicians, 12% (18) administrative staff, 8% (12) biochemists, 7% (11) obstetricians, 3% (5) personal responsible for cleaning, 3% (5) pharmacists, 2% (3) ambulance driver, 2% (3) social worker, 1% (2) physiotherapists, 1% (2) sanitary workers, 1% (2) phonoaudiologists. All HCW were non-reactive for HBsAg. The overall prevalence of anti-HBs in the HCW was 62%. The group the HCW aged 25−34 had a significantly higher prevalence (67%) compared with the groups HWC aged 35−45 (62%, $P<0.02$), aged 46−55 (44%, $P<0.001$) and aged 55−67 (58% $P<0.01$), respectively. There was 7% (11) were unaware of their vaccination status and who were vaccinated in the last 6 years, presented higher protection (66%). In the most exposed professions, biochemists, nurses, physicians, and technicians, the prevalence of protection was 42% (5), 64% (29), 79% (15), and 71% (17), respectively. The most important result of this study was that nearly two-thirds (62%) of the HCW had a protective anti-HBs level, coinciding with published data. In any case, an anti-HBs level <10 mIU/mL is equivalent to not being vaccinated, as some vaccinated subjects will not respond to vaccination and, in responders, anti-HBs titers decrease over time, becoming negative in many cases. Although HBV infections have declined substantially since the introduction of HBV vaccination, the risk of exposure to HBV persists in the healthcare setting. Therefore, there is a need to improve vaccination programs in HCW, in order to protect them from infected persons and vice versa.

A123
ADVANCES IN THE STUDY OF INTRACELLULAR TRANSPORT OF *BRUCELLA ABORTUS* 2308 (VIRULENT STRAIN) IN MACROPHAGES

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In recent years, this research team has progressed in the study of intracellular transport of the virulent strain (2308) of *Brucella abortus* in macrophage cell lines (J-774 and Raw) through multiple microscopic approaches. We demonstrated the transit of *B. abortus* 2308 through compartments of the endocytic pathway, marking early endosomes and lysosomes with gold (20 and 60 nm, respectively). We have shown that *B. abortus* 2308 occupies two different types of compartments: phagolysosomes and modified phagosomes, significantly reducing their fusion to endosomes. On the other hand, macrophages transfected with GFP-Rabs were used to evaluate the location of Rab 5 and 11 proteins, involved in the vesicular transport of the cell. Confocal microscopy showed that *B. abortus* 2308 (stained with Rhodamine) recruits Rab11 to the phagosome membrane that contains them, in the form of discrete patches. In addition, *B. abortus* 2308 co-locates with vesicles that overexpress Rab 5 in a large proportion. The permanence of Rab 5 and 11 associated with phagosomes containing *B. abortus* 2308 suggests that the bacteria actively retain these Rabs to avoid maturation of the phagosome that contains them. Subsequently, the effect of kinase inhibitors (AKTi) on the multiplication and intracellular survival of *B. abortus* 2308 at different times post macrophage infection was studied by confocal microscopy. These results allowed confirming that *B. abortus* 2308 uses the AKT/AS160 pathway to activate Rabs involved in the transport of nutrients necessary for its replication and the generation of a safe intracellular site. The compound used as an AKT inhibitor could constitute a new pharmacological approach for the treatment of brucellosis.

A124
DETERMINATION OF CYANOBACTERIA PRESENT IN BIOLOGICAL CRUSTS OF SOILS AFFECTED BY FOREST FIRE

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1 FTU-UNSL 2 FCA- UNC 3 FICA-UNSL4 FCEyN- UNC

Forest fires are one of the main landscape modelers which cause, among other things, destruction of vegetation and soil losses with the consequent breakdown of ecosystem balances. Biological Crusts (BCs) are an intimate association between fungi, algae, cyanobacteria, bryophytes, and liverworts that are widely distributed in the world's soils. They are the first colonizers in ecosystems that have suffered alterations of this magnitude and play a fundamental role in erosion and runoff control, in addition to their ability