

Abstract

# An Outbreak of Brucellosis in Cattle dairy farm, District Okara, Pakistan - January 2017

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## Abstract

**Background:** Brucellosis is prevalent in livestock causing huge economic losses due to loss of production. On January 4, 2017, six abortions at third trimester of gestation were reported from a cattle dairy farm at Renalakhurd, District Okara.

**Objective:** An Outbreak investigation was initiated to assess the magnitude, identify risk factors and recommend control measures.

**Methods:** A case-control study was conducted. A case was defined as adult cow in the affected dairy farm aborting at third trimester, without fever, from 18th December 2016 to 7th January 2017. Age-matched controls were selected from the same farm (1:4). Semen doses used for insemination, were tested by molecular and culturing technique. Serological testing was done through RBPT and i-ELISA. Frequencies were calculated, odd ratios determined calculated at 95% confidence interval with p value less than 0.05.

**Results:** A total of 49 pregnant cows were identified and 16 of them had aborted at 3rd trimester. The age ranged from 5-7 year (median=5 year). For the 16 cases attack rate was 33% for aborting cows, 24% for close contact cows. The aborting cows were more likely to have brucellosis (OR 35, 95% CI 7-175,  $P=0.00$ ) as compared to non-aborting cows and close contact cows were more likely to have brucellosis (OR 5, 95% CI 1.4-16,  $P=0.017$ ) as compared to cows from other sheds. A total of 18.4% (23/125) farm cattle were found infected with brucellosis on serological testing. Brucellae were not detected in semen doses. Index case was a newly added (2 month before) exotic cow that was not screened by RBPT neither quarantined.

**Conclusions:** Infected exotic cow was the most probable cause of the outbreak. Healthy animals got infection by licking aborted fetus or vaginal secretions of aborting cow. Vaccination of eligible calves using strain19, culling of confirmed cases, isolation of pregnant cows, screening & quarantine of newly purchased animals was recommended.

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