The study was conducted between March to May of 2014. All healthy blood donors were recruited, at the time of their voluntary blood donation. Inclusion criteria (Figure 1). Total samples of 3 mL of venous blood from blood donors were collected in tubes containing EDTA and citrate, stored at 4°C. The DNA was extracted from 200 μL of blood samples using a commercial extraction.

**Amplification of a Bartonella spp.-specific 16S rRNA gene fragment**: A 438 bp fragment of the 16S rRNA gene was amplified both in blood samples.

**Detection of Leptospira spp.**: Specific multiplex PCR able to detect all described pathogenic Leptospira species (L. interrogans, L. borgpetersenii, L. weilii, L. noguchii, L. santarosai, L. meyeri and L. kirschneri) was carried out using primers G1 (5'-CTGATGCCTGTTATAAGG) and G2 (5'-GGAAACAAATGGTCGGAAG) and primers B64-I (5'-CTGAATTCCTACATCGACTC) and B64-II (5'-GCAGAAATCAGATGACGAT) as described previously.

The inclusion criteria were:
- Blood donors arriving to the Blood Bank of the Regional Hospital of Cajamarca, between 18-55 years of age, with absence of signs and/or ammunitions of unspecific illness (absence of fever, chills, jaundice, and myalgia in the last four weeks), who freely signed an informed consent, accepting participation in the study;
- All blood donors included in the study met at least one of the following inclusion criteria: exposure to water sources, waterlogging or other potentially contaminated water collections, such as irrigation canals (ditches), pools, ponds, lakes, rivers;
- Exposure to drains, latrines or management of wastewater contaminated with urine of rodents and other animals;
- Activities with occupational risk, such as farmers, ranchers, garbage collectors, recyclers, cleaning ditches, water and sewer workers, plumbers, veterinarians, agricultural technicians who treat animals, slaughterhouse workers;
- Development of recreational and adventure sports that are related to potentially contaminated water sources (rivers, lakes, ditches, ponds and other activities);
- Living in rural and marginal urban housing with overcrowding or poor or absent sanitation.

**RESULTS**

During the study period, a total of 581 blood donors were received in the Regional Hospital of Cajamarca. From these, 42 (7.23%) blood donors met at least one of the inclusion criteria and consequently were included in the analysis. From these 8 (19.05%) samples were positive for Leptospira spp. And 1 (2.38%) for Bartonella spp., after sequencing was classified as B. baciiformis. (Figure 1)

**CONCLUSIONS**

The introduction of molecular tools in the Leptospira and Bartonella screening in blood banks is need to be routinely implemented, in order to avoid possible post-transfusion infections. An evaluation of the appropriateness of current Blood Service guidelines for the management of leptospirosis and bartonellosis both in the risk areas and in those placed in nearby regions must be reevaluated.

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