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Polymerase chain reaction as an analytical tool in the diagnosis of cattle mastitis

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Mastitis is considered one of the most important dairy cattle diseases. Milk samples are susceptible to the contamination by pathogenic bacteria. These bacteria include *Staphylococcus aureus, Listeria monocytogenes, Escherichia coli, Streptococcus agalactiae* and, etc. Traditional methods for the detection of these pathogens are laborious and time consuming. So, rapid and accurate diagnostic methods are needed. In the present investigation, a total of 362 cows were examined for mastitis pathogens. The common isolates from the clinical mastitis cases were *S. aureus* (13.6%), *E. coli* (10.5%) and *Streptococcus* species (6.7%). Among the subclinical cases, *E. coli* was the most prevalent isolate (14.5%) followed by *S. aureus* (11.8%) and *Streptococcus* species (7.9%). By using multiplex PCR, followed by reverse transcription -PCR (RT- PCR), the aforementioned pathogens in mastitis milk samples could be detected. Compared to the conventional cultivation method and multiplex PCR method, RT- PCR approach has advantage to detect more bacterial strains.