

Variation of the *agr* group and presence of the *pvl* gene in *Staphylococcus aureus* isolated from dairy cows with subclinical mastitis.

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Accessory gene regulator system (*agr*) in *Staphylococcus aureus* is responsible to control several virulence factors and its performance is associated with *quorum-sensing*. This system can be classified in four types according to the polymorphism of genes sequences present in this operon, called: *agrI*, *agrII*, *agrIII* or *agrIV*. In mastitis, the presence of virulence factors increase the survival of the strain in the cow and the presence of this system assists in the performance of these factors, such as leukocidin Panton-Valentine (PVL), which is a cytotoxin that causes destruction of leukocytes, tissue necrosis and severe pneumonia in humans. Therefore, the aim of the study was evaluate the presence and variation of *agr* groups and *pvl* gene in strains of cows with subclinical mastitis. 116 strains of *S. aureus* were isolated on Baird- Parker agar, from milk of cows with subclinical mastitis. For the PCR reactions, DNA was extracted using the Minispin Kit. The presence of the genes studied was visualized on 1% agarose gel electrophoresis. In 4 (3.44%) isolates the *pvl* gene was detected, usually in cases of mastitis, the percentage of presence this gene is approximately 5%. In relation to *agr*, the group I was the most frequent among isolates, it was identified in 25 (21.6%), followed group III 13 (11.2%) and group II 11 (9.5%). The group IV was not found and 68 (58.6%) isolates were not classified in any groups. One isolate was detected the presence of *agrI* and *agrIII*, fact not yet reported in the literature, which may increase the virulence of the strain. It is known that *agrI* strains, isolated from cattle, have greater ability to persist in mammary glands and higher internalisation in epithelial cells *in vitro*. Virulence factors and systems that manage their actions increase the ability of *S. aureus* to stay and proliferate in the animal. In addition, they can spread among other animals, which can lead to problems in dairy herds.

*Key- words:* *S.aureus*, *agrI*, *agrIII*, *pvl*, mastitis.