Clonal diversity of *Staphylococcus aureus* originating from the small ruminants goats and sheep - DTU Orbit (13/12/2018)

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*Staphylococcus aureus* is an important pathogen in humans and many animal species. The prevalence of different clonal types in animal species remains largely unknown. We analyzed 267 *S. aureus* from intramammary infections in goats (47) and sheep (220) by spa typing, multi-locus sequence typing (MLST) and antimicrobial susceptibility. The most frequent spa types in goats were t337 (N = 9), t759 (N = 6) and t1534 (N = 5). Sheep isolates mainly belonged to spa types t1534 (N = 72), t2678 (N = 29) and t3576 (N = 20). Eighteen novel spa-types were observed; two from goat strains, 13 from sheep and three in both species. The majority of the goat strains grouped in MLST CC133 (N = 10) and ST522 (N = 10), followed by CC9 (N = 9), while the majority of the sheep strains were of ST522 (N = 108) followed by CC133 (N = 86) and CC130 (N = 11). Nine new MLST types were detected; three in goat and sheep isolates (ST1739, ST1758 and ST1780), two identified in goats only (ST1740 and ST2061) and four in sheep only (ST1742, ST1743, ST1781 and ST2011). Strains showed resistance below 20% against penicillin and tetracycline; a strong association between CC-types and penicillin resistance was observed. No resistance was detected to cefoxitin, quinupristin-dalfopristin, rifampicin and vancomycin. This study suggests that ST522 is the most common *S. aureus* clone associated with small ruminants followed by CC133.

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