OIE reference laboratory of the University of Utrecht were used as controls. The concordance between the biochemical test and PCRs was calculated with Cohen´s Kappa statistic. Antimicrobial resistance profile was studied by determining the minimum inhibitory concentrations (MICs) of 7 *Cfv* and 32 *Cfvi* isolates by broth microdilution, using EUCAMP2 plates (Sensititre®, ThermoFisher Scientific) that contain 6 antimicrobial agents, as recommended by the Commission Decision 2013/652/EU. Results were interpreted using epidemiological cut-off values as developed by the European Committee for Antimicrobial Susceptibility Testing[5] for *C. jejuni*, as there are no cut-offs established for *C. fetus*.

Results: The 83 *C. fetus* isolates analysed were classified into 14 different biochemical profiles, and 14 isolates were identified as *Cfv* (16.9%), 50 as *Cfvi* (60.2%) and 19 as *Cff* (22.9%). On the other hand, PCR identification showed that 11 (13.2%) of the isolates were *Cfv*, 60 (72.3%) *Cfvi* and 12 (14.4%) *Cff*.

Discrepancies between biochemical and molecular tests for subspecies identification were found for 7 isolates molecularly identified as *Cfvi* but with biochemical characteristics typical of *Cff* isolates (i.e., growth at 42ºC and tolerance to 1% glycine). Thus, a concordance of 91.6% (κ=0.726; 0.539-0.912 CI) was observed between PCR identification of *Cfv* and *Cff* isolates and biochemical tests. As for biovar *intermedius* identification, at 72 hours, 12 isolates with the complete L-cysteine operon typical of *Cfvi* isolates showed no H_2S production, whereas only 3 remained negative for H_2S production after 5 days. Hence, concordance between the PCR method and the H_2S production test was lower when isolates were grown for 72 h (κ=0.553, 0.347-0.760 CI) than 5 days (κ=0.855, 0.696-1 CI).

The seven isolates characterised as *Cfv* did not grow properly in Müller-Hinton broth so their MICs could not be determined. For *Cfvi* isolates, 65.6% (21/32) were resistant to nalidixic acid and sensitive to all other antibiotics.

Conclusions: There is a significant biochemical variability between *Cfvi* isolates. Even if there is good agreement between biochemical tests and PCR to differentiate *Cfv* and *Cff*, the use of both methods is necessary for a correct identification. The H_2S production test gives more reliable results for the differentiation of *Cfvi* after five days of incubation compared with 72 h. All isolates tested were sensitive to streptomycin and tetracycline, making the use of these drugs effective for the treatment of BGC.

Funding: This study was supported by RTA2017-00076-00-00 project and the doctoral formation grant Pre2018-086113 funded by MCIN/AEI/ 10.13039/501100011033 and FSE.

References:

[1]OIE. 2021 Chapter 3.4.4.

[2]van der Graaf et al 2013. J Microbiol Methods; 95:93–7.

[3]Truyers et al. 2014. BMC Vet Res;10.

[4]Farace et. al 2019. PeerJ;7: e7820.

[5]EUCAST. https://www.eucast.org

Keywords: Campylobacter fetus subsp. venerealis, biochemical tests, PCR, antimicrobial profile.

AH-P44

Tresholds of dry cow blood variables obtained by receiver operating characteristic analysis for indication of milk production during early lactation

Danijela Kirovski, Ljubomir Jovanović, Milica Stojić, Dušan Bošnjaković, Slavica Dražić, Radiša Prodanović, Sreten Nedić, Ivan Vujanac.

Faculty of Veterinary Medicine University of Belgrade, Belgrade, Serbia.

Objective: The aim of the study was to determine the association between the metabolic parameters determined in dry cows and milk production at early lactation period. The receiver operating characteristic (ROC) analysis was used as a valuable tool to evaluate prediction of milk production based on results for metabolic status of dry cows. The cut off values for metabolic parameters were determined as values below or above which daily production of milk was higher than 30 L at day 30 of lactation.

Material and methods: The study included 191 dry cows. At the time of selection, body condition score was estimated and blood was sampled from *v. jugularis*. Concentrations of the beta- hydroxybutyrate, nonesterified fatty acids, glucose, total bilirubin, total protein, albumin, urea, Ca and P, and calculated Ca/P ratio were estimated. On day 30, daily milk production was measurd for each cow. Milk fat, milk protein, milk dry matter contents as well as fat to protein ratio (F/P) were estimated in milk samples taken at day 30 of lactation.

Results: Our results indicate that during late pregnancy, as reliable predictors of daily milk yield can be used BCS, glucose, beta-hydroxybutyrate, and Ca concentrations as well as Ca/P. Namely, milk production higher or equall to 30 L at day 30 of lactation can be indicated if values are lower than 3.85 and 0.65 mmol/L, for body condition score and beta-hydroxybutyrate, respectively, and higher than 3.45mmol/L, 2.45mmol/L, and 1.04 for glucose, Ca and Ca/P ratio, respectively.

Conclusion: Our results indicate that some metabolic parameters determined at dry cows can be used for milk prediction in early lactated dairy cows. However, physiological range of determined parameters should not be overlooked in interpretation of obtained results.

This research was supported by the Science Fund of the Republic of Serbia, GRANT No 7750295, “Mitigation of methane production from dairy cattle farm by nutritive modulation of cow`s metabolism -MitiMetCattle.“

Keywords: dry cows, metabolic profile, ROC analyses, milk production.