Comparison of Transverse Facial Venous Sinus and Jugular Blood Values in Healthy and Critically Ill Horses

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Findings support the use of the transverse facial venous sinus (TFVS) as a blood sampling site in horses. Authors’ address: Large Animal Clinical Sciences, Oregon State University College of Veterinary Medicine, Corvallis, OR 97331; e-mail: barbara.hunter21@gmail.com. *Corresponding and presenting author. © 2013 AAEP.

1. Introduction
The transverse facial venous sinus (TFVS) can be used for blood collection in the horse, but information on the validity of blood values from this site is limited.

The objectives of the study were to determine whether packed cell volume (PCV), total solids (TS), and blood lactate concentrations in blood drawn simultaneously from a TFVS and the jugular vein of critically ill horses is correlated and to determine the effect of serial TFVS sampling on the same parameters in healthy horses.

2. Methods
Critically ill horses had simultaneous blood samples drawn from a TFVS and the jugular vein. Blood was drawn from the left TFVS and the jugular vein from six healthy adult horses every 6 hours for 24 hours, then every 24 hours for 72 hours. Blood was drawn from the right TFVS and the jugular vein every 24 hours for 96 hours. All samples were analyzed for PCV, TS, and blood lactate concentration. Data were analyzed by means of two-way repeated-measures analysis of variance. Significance was set at $P \leq 0.05$.

3. Results
There were no significant differences in PCV, TS, or blood lactate concentrations of TFVS samples compared with jugular blood in critically ill horses. Serial TFVS sampling in healthy horses had no significant effect on TS or blood lactate concentrations. PCV in the TFVS was significantly lower than jugular blood on serial sampling, but the difference was not considered clinically relevant.

4. Conclusions
Blood values for PCV, TS, and blood lactate concentrations were comparable between the TFVS and the jugular vein.