FOCUS Standard Cytology Scale: What Is in Your Practice?

Results of skin and ear cytology samples are often used to initiate and monitor therapy. A semiquantitative scale for recording results (see **Cytology Scale**) and testing the reproducibility of reading and scoring cutaneous cytology was developed. Sixty examiners (29 very experienced, 31 less experienced) were asked to examine glass slides (n = 10) and photographs (n = 18) of cutaneous cytology and score the specimen using a scale (see **Cytology Scale**). Experienced examiners received no instructions or coaching; less experienced participants were advised to scan the slides at low power first. Participants were asked to repeat the evaluation and scoring 5 hours later. The intraobserver reproducibility was 84.3% (experienced group) and 82.6% (less experienced group). Interobserver reproducibility for both experienced and less experienced groups was nearly identical for slides (81.6% and 80%, respectively) and photographs (91.0% and 90%, respectively).

Commentary

This study showed that practices can develop a standardized reporting system for skin and ear findings to be read by veterinarians or veterinary technicians by developing a scale (or using the one mentioned) and having a short training session using glass slides or photographs. Permanent mounts of glass slides representative of the scale for training and reference could be beneficial. This would be useful for any field that relies heavily on cytological skills.—*Karen A. Moriello, DVM, DACVD*

Source

Reproducibility of a semiquantitative method to assess cutaneous cytology. Budach SC, Mueller RS. *VET DERMATOL* 23:426-e80, 2012.

Cytology Scale

- 0 = No bacteria/yeast/inflammatory cells present
- 1+ = Occasional bacteria/yeast/inflammatory cells present, but slide must be scanned carefully for detection
- 2+ = Bacteria/yeast/inflammatory cells present in low numbers but easily detectable
- 3+ = Bacteria/yeast/inflammatory cells present in larger numbers and quickly and easily detectable
- 4+ = Massive amounts of bacteria/yeast/inflammatory cells present and quickly and easily detectable

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At-Home Treatment for Hypoglycemic Crises

Hypoglycemia is a serious complication of diabetes mellitus. Glucagon rapidly elevates blood glucose levels and is administered SC and IV in humans with hypoglycemic crises. The amino acid sequence of glucagon is identical in humans and dogs; this study investigated the effects of SC and IV administration of glucagon on glucose concentration and insulin and cortisol secretion in dogs. Five healthy beagles received 1 mg glucagon or placebo (ie, sterile water) IV or SC. Blood samples were collected pre- and postadministration and analyzed for insulin-like reactivity, glucose, ACTH, and cortisol secretion. Glucagon was well tolerated in all dogs; somnolence was the only observed adverse effect. Glucagon administration resulted in increased glucose concentrations over baseline at 10, 20, and 30 minutes postadministration with peaks at 20 minutes and significantly increased insulin-like reactivity. IV administration resulted in higher glucose concentrations than SC administration. SC administration did not result in significant increase in ACTH or cortisol concentrations; however, IV administration resulted in a significant increase in cortisol 10 minutes postadministration. SC glucagon may have potential for at-home canine hypoglycemic emergencies.

Commentary

SC glucagon injection increased glucose levels to 97–146 mg/dL within 20 minutes of administration, which the authors argued would succeed based on recent human studies. Although not as effective as the IV route, human emergency kits with SC glucagon could be used by dog owners to help their pets overcome severe hypoglycemia. In addition, the SC glucagon caused significant increases in insulin secretion that may provide a new stimulation test for future studies of diabetic dogs. Cortisol elevation was limited. Ultimately, this pilot study suggested the need for additional research on emergency glucagon intervention and diabetic testing. It also suggested the potential of an alternative to the glucagon CRI in initial insulinoma or insulin overdose therapy.—*Ewan Wolff, DVM*

Source

Metabolic and hormonal responses to subcutaneous glucagon in healthy beagles. Zeugswetter FK, Schornsteiner E, Haimel G, Schwendenwein I. *JVECC* 22:558-563, 2012.

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