To describe problems noted during central venous jugular catheter (CVJC) placement, conditions associated with unsuccessful catheterization, and CVJC maintenance complications” et al (2018).

Abstract:

OBJECTIVE: To describe problems noted during central venous jugular catheter (CVJC) placement, conditions associated with unsuccessful catheterization, and CVJC maintenance complications.

DESIGN: Prospective observational study from September 2014 to September 2015.

SETTING: University veterinary teaching hospital.

ANIMALS: Twenty-seven dogs and 20 cats hospitalized in a veterinary ICU. Patients were excluded if previously hospitalized with a CVJC or lacked sufficient data.

INTERVENTIONS: None.

MEASUREMENTS AND MAIN RESULTS: Ninety-one percent of indwelling CVJCs were placed successfully (43/47, 95% CI: 80%, 98%). Procedural-related difficulties that resulted in the inability to place a CVJC totaled 18/63 (28.6%, 95% CI: 18%, 41%) and included the inability to puncture the vessel (10), hematoma (6), malposition (1), and dislodgement (1). Procedural complications occurred in 24/47 patients (51%, 95% CI: 36%, 66%) and included cardiac dysrhythmias (13), hematoma (6), CVJC placement failure (4), and malposition (1). Risk factors associated with multiple catheterization attempts included increased age (7.5 years [± 4.2] vs 10.6 years [± 4.1], P = 0.04), smaller size (8.0 kg [0.6-51.9 kg] vs 4.4 kg [2.6-6.8 kg], P < 0.01) and thinner body condition score (median 5/9 [2/9-9/9] vs 4/9 [2/9-7/9], P = 0.04). The risk factor associated with dysrhythmias was smaller patient size (6.8 kg [2.6-51.9 kg] vs 4.8 kg [0.6-29.5 kg], P = 0.04). Eighteen indwelling complications occurred in 14 patients and included mechanical obstruction (7), skin irritation (6), malposition (4), and inflammation (1). Risk factors for indwelling complications included longer dwell time (5 days [2-30] vs 3 days [1-10], P < 0.01) and the administration of an irritant medication (P = 0.02).
CONCLUSIONS: Complications were documented in the placement and maintenance of CVJCs in critically ill patients with a low incidence of life-threatening sequelae. Risk factors associated with both unsuccessful CVJC placement and indwelling CVJC complications were identified.

Reference: