



To evaluate retrospectively the fracture risk of totally implanted venous access devices connected to Groshong silicone (SC) versus polyurethane (PU) catheters, inserted via the internal jugular vein” Kojima et al (2016).

Abstract:

**PURPOSE:** To evaluate retrospectively the fracture risk of totally implanted venous access devices connected to Groshong silicone (SC) versus polyurethane (PU) catheters, inserted via the internal jugular vein.

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**MATERIALS AND METHODS:** The study population comprised 384 SC and 221 PU central venous catheters implanted via the internal jugular vein. The presence of catheter fracture was evaluated. Variables possibly related to catheter fracture were evaluated. First, in order to determine the factors associated with fracture, fracture rates were compared with the log-rank test between the two groups divided by each of the variables. Then, in order to adjust for potential confounders, propensity-score matching of the variables was employed in the two catheter groups. Finally, the rates of fracture were compared between the two propensity-score-matched catheter groups.

RESULTS: There were 16 cases of catheter fracture, for an overall fracture percentage of 2.6% (16/605). All 16 cases of fracture occurred in the SC catheter group. Smaller patient body mass index ( $p = 0.039$ ), deeper catheter tip position ( $p = 0.022$ ), and SC catheters ( $p = 0.019$ ) were significantly associated with fracture. With the propensity-score-matching method, 180 cases were selected in each catheter group. Comparison of the two propensity-score-matched groups showed that fracture rates for SC catheters remained significantly ( $p = 0.018$ ) higher than those for PU catheters.

CONCLUSIONS: Ports connected to Groshong SC catheters - when implanted via the internal jugular vein - posed a higher risk of fracture than did ports connected to PU catheters.

Reference:

Kojima, S., Hiraki, T., Gobara, H., Iguchi, T., Fujiwara, H., Matsui, Y., Mitsunashi, T. and Kanazawa, S. (2016) Fracture of totally implanted central venous access devices: a propensity-score-matched comparison of risks for Groshong silicone versus polyurethane catheters. The Journal of Vascular Access. October 21st. .

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