Colonization of klebsiella pneumoniae inside fistula tracts a possible risk factor for failure of fibrin glue-assisted closure.

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Abstract:

Goals: This study was designed to investigate the risk factors affecting glue-assisted closure (GAC) in the enterocutaneous fistula (ECF) patients receiving glue application. Background: ECF is a challenging problem in surgical practice, and it is difficult to resolve by spontaneous closure. Currently, GAC is popular when treating fistulas, but data related to risk factors are limited. Methods: We retrospectively analyzed 82 patients with 93 ECFs, who had autologous glue sealing from 2010 to 2012 in a referral center. Their demographic data, clinical records, and fistula characteristics were collected. Both univariate analysis and multivariate Cox proportional hazards model were used to determine the prognostic factors affecting closure. Results: During the 14-day treatment period, 78.5% (73/93) of the fistulas achieved GAC. We excluded 3 reopened fistulas and investigated 90 ECFs from 79 patients. Univariate analysis demonstrated that patients with high levels of CRP, high CRP: prealbumin ratio, elevated blood glucose, and specific pathogen colonization, together with lower GI location, greater output volume, and shorter tract length, had a poor outcome (P<0.05). Using multivariate analysis, monomicrobial and polymicrobial colonization with Klebsiella pneumoniae inside the fistula tracts (hazard ratio, 0.191; 95% confidence interval, 0.045-0.810; P=0.025) was a statistically significant risk factor for failure of fistula closure. Conclusions: The presence of monomicrobial and polymicrobial colonization with K. pneumoniae in fistulous tracts was an independent risk factor for failure of GAC in patients receiving glue application. Better debridement of the tracts should be performed before the glue sealing.