# Fibrin adhesive and the vaginal vault synthesis on female rabbits abdominal hysterectomies.

Authors: Lima AG, Taha MO, Rivoire HC, Fagundes AT, Fagundes DJ

Publication Date: 2009

## Abstract:

PURPOSE: To investigate the effectiveness of fibrin glue in comparison with polyglycolic acid suture to promote the closure of rabbit's vaginal vault, after abdominal hysterectomy.

METHODS: Twenty female, adults, New Zealand rabbits, were submitted to abdominal hysterectomy and randomly distributed to polyglycolic acid suture (G-PA / n=10) or fibrin glue closure of vaginal vault (G-FG / n=10). Radiograph study allowed identifying vault vaginal suture disrupter or fistulas to urinary bladder or rectum. Videovaginoscopy study allowed identifying the presence of cellulites, abscess formation, tissue granulation or granuloma. Vaginal cuff burst test allowed to identify by the escape of air bubbles and rupture pression record. Histological sections stained with Picrosirius red allowed the measure of fibrous tissue healing.

RESULTS: The videovaginoscopy identified a significant difference (Fisher Test $p<0.3142$) of granulation tissue in the animals of G-PA (40%) in comparison with the G-FG (20%). The gross inspection showed the same relation in the granulation tissue occurrence (Fisher test $p< 0.1749$) with G-PA (50%) and G-FB (20%). The visceral adhesion to the vaginal vault wound was statistical significant (Fisher test $p< 0.1749$) with G-PA (50%) and G-FG (20%). The pressure of rupture (mm Hg) of the burst test was similar ($p<0.0421$) in the animals of G-PA (61.5+/-19.3) and G-FG (72.5+/-21.9). The collagen matrix of vault wound healing was similar ($p< 0.0231$) between the G-PA (31.63+/-15) and the G-FG (23.2+/-13.2).

CONCLUSION: The vaginal vault closure using the fibrin glue is a safe and reliable procedure after abdominal hysterectomy in female rabbit model.