# Assessment of pain provoked during different methods of Ovariohysterectomy in bitches

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**Abstract**

Statement of problem: Ovariohysterectomy (OVH) is a surgical procedure to remove the uterus and both the ovaries to make the female animal sterile. OVH is normally performed by right flank and ventral mid line approach resulting in intolerable pain. This study was undertaken to assess the pain provoked during different OVH methods.

Methodology & Theoretical Orientation: Twenty healthy bitches (N=20) were allocated equally into right flank and mid ventral groups. All the physiological parameters were monitored at different steps of surgical procedure. All the bitches were operated in multimodal anesthesia with pre-emptive analgesia. The pain and analgesia were assessed before surgery, plus 1 hr and 24 hrs after surgery using Glasgow composite pain scale and transformed weight to behavior scale. 3 ml blood sample was collected at the same time, and then serum was separated and stored at -20$^{o}$C until performing quantitative ELISA for PGE2 and c-Fos. The parametric variables were analyzed using one-way analysis of variance (ANOVA) followed by student's t-test. However, the non-parametric variables were analyzed using Kruskal–Wallis ANOVA followed by the rank-based Mann–Whitney U-test.

Findings: Time was significantly higher in midline approach from entering the peritoneal cavity to exteriorizing the genital tract, complete removal of genital tract and completion of surgery after removal of genital tract ($P<0.001$). Stretching and severing of ovarian ligament were found the most painful procedure in both the methods. Intraoperative pain score for midline approach during traction and severing of first ovary as well as traction and severing of second ovary and cervix were found relatively greater. The postoperative pain was recorded significantly higher at

1 hour of surgery (P=0.02) at the right flank approach which is also supported by the significant increase of serum PGE2 (P=0.006) and c-Fos (P=0.021) at the same time of surgery.

Conclusion & Significance: Right flank seems to be more painful surgical approach. Special attention need to be paid for the proper post-operative pain management after the right flank OVH.

**Keywords:** Bitch, c-Fos, Ovariohysterectomy, Pain, PGE2

**Biography:**



Dr Regmi has his expertise in veterinary surgery and radiology. He has been working as a veterinary surgeon in the Veterinary Hospital, Pokhara which is a government hospital. He has been enrolled in different research projects related to canine visceral pain and bovine brucellosis. He has published more than 30 research articles in different national and international journals and proceedings (h-index 3).

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