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## Effect of pneumoperitoneum on renal resistive index in patients underwent laparoscopic living donor nephrectomy (LLDN): A pilot study

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Laparoscopic donor nephrectomy (LDN) in kidney transplantation has been widely used as a treatment modality for end-stage renal disease. However, though this method has a better outcome than open nephrectomy, several studies showed that many complication, including reduction of blood flow to the kidney due to pneumoperitoneum, shown by resistive index (RI). This study aims to find the use of RI measurement during LDN for monitoring organ function and donor's quality of life. This is a pilot study conducted at Cipto Mangunkusumo National Hospital, Indonesia. Patients were divided into two groups (pneumoperitoneum with 10 mmHg and 12 mmHg), then demographic and RI value was recorded. Measurement of RI was done in five different stages; before pneumoperitoneum insufflation, 1 hour post insufflation, 3 hours post insulation, after surgery and 24 hours post surgery. Statistical analysis was performed to know the comparison between variables. There was 45 samples predominantly male (62.2%), age 31 (21-58) years old. In comparison between 10 and 12 mmHg pneumoperitoneum, significant changes were observed only on 24-hours post operation. Moreover, in 12 mmHg pneumoperitoneum, there was a significant difference between 1 hour post insufflation and 24 hours post surgery with baseline RI value. Overall, the proportion of patients with  $RI > 0.67$  were higher in 12 mmHg group compared to 10 mmHg. There was an association between pneumoperitoneum pressure and RI value, at 24 hours post-surgery. However, further research is needed to know the fluid administration, hemodynamic outcome, post surgery follow-up time and clinical condition of the patients.

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