

According to clinical data, a significant percentage of patients experience pain after surgery, highlighting the importance of alleviating postoperative pain. The current approach involves intravenous self-control analgesia, often utilizing opioid analgesics such as morphine, sufentanil, and fentanyl. Surgery for colorectal cancer typically involves general anesthesia. Therefore, optimizing anesthetic management and postoperative analgesic programs can effectively reduce perioperative stress and enhance postoperative recovery. The study aims to analyze the impact of different anesthesia modalities with multimodal analgesia on patients' postoperative pain.

To explore the effects of different anesthesia methods coupled with multi-mode analgesia on postoperative pain in patients with colorectal cancer.

Following the inclusion criteria and exclusion criteria, a total of 126 patients with colorectal cancer admitted to our hospital from January 2020 to December 2022 were included, of which 63 received general anesthesia coupled with multi-mode labor pain and were set as the control group, and 63 received general anesthesia associated with epidural anesthesia coupled with multi-mode labor pain and were set as the research group. After data collection, the effects of postoperative analgesia, sedation, and recovery were compared.

Compared to the control group, the research group had shorter recovery times for orientation, extubation, eye-opening, and spontaneous respiration ( $P < 0.05$ ). The research group also showed lower Visual analog scale scores at 24 h and 48 h, higher Ramany scores at 6 h and 12 h, and improved cognitive function at 24 h, 48 h, and 72 h ( $P < 0.05$ ). Additionally, interleukin-6 and interleukin-10 levels were significantly reduced at various time points in the research group compared to the control group ( $P < 0.05$ ). Levels of CD3+, CD4+, and CD4+/CD8+ were also lower in the research group at multiple time points ( $P < 0.05$ ).

For patients with colorectal cancer, general anesthesia coupled with epidural anesthesia and multi-mode analgesia can achieve better

postoperative analgesia and sedation effects, promote postoperative rehabilitation of patients, improve inflammatory stress and immune status, and have higher safety.