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# Povidone-iodine vs sodium hypochlorite enema for mechanical preparation before elective open colonic or rectal resection with primary anastomosis: a multicenter randomized controlled trial

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## Abstract

**Hypothesis:** The anti-infective actions of povidone-iodine (PVI) and sodium hypochlorite enemas are different.

**Design:** Prospective, randomized, single-blind study.

**Setting:** Multicenter.

**Patients:** Five hundred seventeen consecutive patients with colorectal carcinoma or sigmoid diverticular disease undergoing elective open colorectal resection, followed by primary anastomosis.

**Intervention:** All patients received senna (1-2 packages diluted in a glass of water) at 6 pm the evening before surgery. Patients were administered two 2-L aqueous enemas of 5% PVI (n = 277) or 0.3% sodium hypochlorite (n = 240) at 9 pm the evening before surgery and at 3 hours before operation. Intravenous ceftriaxone sodium (1 g) and metronidazole (1 g) were administered at anesthetic induction.

**Main outcome measure:** Rate of patients with 1 infective parietoabdominal complication or more.

**Results:** The percentages of patients with 1 infective parietoabdominal complication or more did not differ between the 2 groups (13.7% in the PVI-treated group vs 15.0% in the sodium hypochlorite-treated group). Tolerance was better in the PVI-treated group than in the sodium hypochlorite-treated group (79.4% vs 67.9%), with fewer patients experiencing abdominal pain (13.0% vs 24.6%) or discontinuing their preparation (3.0% vs 9.0%) (P=.02 for all). There were more patients with malaise in the PVI-treated group than in the sodium hypochlorite-treated group (9.1% vs 4.9%, P<.05). Three patients in the sodium hypochlorite-treated group had necrotic ulcerative colitis.

**Conclusion:** When antiseptic enemas are chosen for mechanical preparation before colorectal surgery, PVI should be preferred over sodium hypochlorite because of better tolerance and avoidance of necrotic ulcerative colitis.

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