

# External Nursing Applications in the Supportive Management of Prolonged Postoperative Ileus

## Description of Interventions and Case Report

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Prolonged postoperative ileus is a common but clinically challenging problem that leads to patient discomfort and prolonged hospitalization; the condition is managed through a multimodular program of supportive measures. In anthroposophic nursing, the management of prolonged postoperative ileus involves additional tools, including external abdominal compresses and massages with plant or silver-containing oils and ointments. We describe 3 typical techniques: *Oxalis* tincture compresses, *Thuja/Argentum* ointment compresses, and massage with “Wala Melissenöl” (containing *Melissa officinalis*, *Carvum cari*, *Foeniculum amari*, and *Origanum majorana*). A 61-year-old man with chronic pain from adhesions after multiple abdominal surgical procedures developed a prolonged postoperative ileus after an elective ileostomy reversal. Following slow recovery during the first postoperative days, he began vomiting. A nasogastric tube was inserted, and daily *Oxalis* tincture compresses and massage with “Wala Melissenöl” and *Thuja/Argentum* ointment compresses were applied on the abdomen. The patient’s symptoms gradually improved over the next 10 days. No prokinetic medications were needed to manage this episode. External abdominal nursing applications with plant substances and silver can be an additional tool in the management of prolonged postoperative ileus. **KEY WORDS:** anthroposophy, complementary therapies, *Melissa officinalis*, *Oxalis acetosella*, perioperative nursing, postoperative ileus, *Thuja occidentalis*

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The aim of this article is to describe an anthroposophic nursing approach to the treatment of prolonged postoperative ileus and to exemplify this through a case report.

### PROLONGED POSTOPERATIVE ILEUS

*Postoperative ileus* refers to impaired gastrointestinal motility and transit following surgery. Symptoms include abdominal distention, nausea and vomiting, intolerance of oral diet, and delayed passage of flatus and stool. On physical examination, the abdomen is typically distended and tympanic with reduced bowel sounds and diffuse tenderness. Postoperative ileus is considered prolonged in the absence of bowel activity by day 5 or 6 postoperatively<sup>1</sup>; prolonged postoperative ileus occurs in up to 25% of patients following

major elective abdominal surgery.<sup>1</sup> The duration of symptoms is influenced by the site of surgery, operation time, and the amount of blood loss.<sup>2</sup> Intra-abdominal adhesions increase the risk for delayed postoperative bowel function after subsequent surgery.<sup>3</sup>

Management of prolonged postoperative ileus is supportive and multimodal and may include correction of electrolyte abnormalities; early weaning of narcotic analgesics; nasogastric decompression for those with nausea or vomiting; restrictive intravenous fluids; parenteral nutrition after 7 days of inadequate oral intake; and increasing parasympathetic activity with drugs such as neostigmine and metoclopramide and through chewing gum, abdominal massage, and psychological support.<sup>1,2,4</sup>

## EXTERNAL ABDOMINAL APPLICATIONS IN ANTHROPOSOPHIC NURSING

Anthroposophic nursing was founded in the Ita Wegman Clinic in Arlesheim, Switzerland, in 1923 and is today practiced in numerous hospitals and clinics globally that integrate conventional and anthroposophic medicine.<sup>5,6</sup> Anthroposophic nursing is practiced by registered nurses with additional postgraduate training. Anthroposophic nursing is part of an integrative medical system developed by Rudolf Steiner and Ita Wegman.<sup>7,8</sup>

External applications such as embrocations, massages, compresses, poultices, and soaks are at the core of anthroposophic nursing care, using the skin both as a sense organ and for its capacity to absorb topical medications. External applications are performed with etheric or fatty oils, essences, tinctures, and ointments with the intent to stimulate, strengthen, or regulate healing processes, based on Rudolf Steiner's concept of "vital" or "etheric" energy.<sup>9-11</sup> Some of the typical substances and methods used after abdominal surgery are described later.

For each of the substances described later, we further searched MEDLINE (with Latin and common name) for studies on therapeutic effects in humans and briefly summarized the findings (a full literature review was beyond the scope of this article); we excluded documentation of traditional and ethnopharmacologic use.

### *Oxalis* compress

*Oxalis acetosella* (common wood sorrel) has thin, sensitive leaves, grows on acid forest soil, has a sharp

flavor due to the presence of oxalic acid, and plays a role in soil regeneration.

### *Anthroposophic concept*

The regenerative capacity of *Oxalis* is used to activate digestion, to calm abdominal cramps, and to reduce gas and constipation.<sup>12,13</sup>

### *Clinical studies*

No clinical studies were identified for *Oxalis acetosella* or *Oxalis corniculata*, the creeping wood sorrel.

### *Nursing method*

Add 5 mL of *Oxalis*, Folium 20% tincture (Weleda, Schwäbisch Gmünd, Germany) into a bowl of 150-mL tap water at 38°C to 40°C. Wet a cotton napkin (approximately 10 × 20 cm), wring it out, and apply over abdomen (Figure 1). Cover entire abdomen with a terry towel and then place a woolen scarf around the waist. Keep feet warm. Duration: 20 minutes followed by 30 minutes of rest time. Frequency: once daily.

### Massage with "Wala Melissenöl"

"Wala Melissenöl" is an oil containing *Melissa officinalis* (lemon balm), *Carum carvi* (caraway), *Foeniculum amari* (bitter fennel), and *Origanum majorana* (oregano).

### *Anthroposophic concept*

All ingredients have antispasmodic activity, are rich in etheric oils,<sup>14</sup> and are closely associated with the intestinal tract.

### *Clinical studies*

*Melissa officinalis*. The large number of studies of *Melissa officinalis* is beyond the scope of this article



**FIGURE 1.** Applying an external abdominal compress on a volunteer.

and has been a subject of several reviews, examining studies of lemon balm for dyspepsia and colitis,<sup>15</sup> anxiety,<sup>15,16</sup> sleep quality,<sup>15</sup> dementia and cognitive performance,<sup>15,17-19</sup> and herpes simplex infection.<sup>15,20</sup>

*Carum carvi*: A randomized trial of hot caraway poultices reduced symptoms in irritable bowel syndrome.<sup>21</sup> Thompson Coon and Ernst<sup>22</sup> reviewed the various trials evaluating caraway and peppermint in non-ulcer dyspepsia, all of which showed positive effects. One randomized controlled trial showed an antiobesity effect.<sup>23</sup> The related *Carum copticum* had a bronchodilatory effect in asthmatic patients as compared with placebo.<sup>24</sup>

*Foeniculum amari*: We identified no studies on bitter fennel but a number of studies on orally taken *Foeniculum vulgare* (sweet fennel); 5 studies showed symptom relief in dysmenorrhea,<sup>25-29</sup> although a Cochrane review concluded that evidence was not yet consistent.<sup>30</sup> One study found a positive effect on postoperative gut recovery from fennel tea,<sup>31</sup> and 2 studies reported improvement in infant colic symptoms by fennel in combination with other plants.<sup>32,33</sup>

*Origanum majorana*: No clinical studies were found.

### Nursing method

Place a few drops of “Wala Melissenöl” (Wala, Bad Boll, Germany) on your palms and very gently massage the abdomen clockwise for about 5 minutes.<sup>9</sup>

### Thuja/Argentum ointment compress

*Thuja occidentalis* (white cedar) is a cypress tree, also called *Arbor vitae* (Latin for “tree of life”). Its compact leaves are rich in etheric oils, tanning agents, and resin.

### Anthroposophic concept

In anthroposophic nursing, the vitality of *Thuja occidentalis* is used externally for poorly healing wounds, pressure ulcers, and warts.<sup>11</sup> Argentum (silver) is used externally for pressure wounds, fungal infections of the skin, bladder infections, and atonic constipation.<sup>13</sup>

### Clinical studies

*Thuja occidentalis*: A review identified several studies of *Thuja* in combination with other plants showing symptom improvement in common cold/upper respiratory infections.<sup>34</sup> We identified no other clinical studies.

Argentum (silver) has antimicrobial properties that are widely used in the management of burns and acute and chronic wounds, as well as external disinfectant and for coating of urinary catheters or endotracheal catheters.<sup>35</sup> Silver even reduced wound pain in a randomized trial.<sup>36</sup>

### Nursing method

Apply *Thuja occidentalis* 10% ointment and Argentum metallicum preparatum 0.4% ointment (both Weleda, Schwäbisch Gmünd, Germany) thinly and in equal quantities on a cotton tissue (approximately 10 × 20 cm) and place on the abdomen (Figure 1). Cover with a prewarmed cloth or scarf. Duration: At least 30 minutes (but can be left all night), followed by 30 minutes of rest time.

## CASE DESCRIPTION

We present the case of a 61-year-old man of Vietnamese origin who had been suffering from adhesion-related abdominal pain for many years. His first abdominal surgery was an open appendectomy at the age of 31 years. At the age of 41 years, he had an open surgery for jejunal bleeding from a phlebectasia. He suffered severe postoperative ileus, necessitating the temporary placement of an ileostomy over the course of several months. Chronic abdominal pain ensued, and a first adhesiolysis was performed at the age of 43 years. Three years later, he had an adhesion-related ileus that was managed conservatively. Colonoscopies were performed at 2 occasions for suspected gastrointestinal bleeding. A hernia at the abdominal incision site was repaired at the age of 53 years.

In February 2013, now aged 61 years, another adhesion-related ileus occurred. A 4-hour laparotomy with adhesiolysis of the entire small intestine was performed and a double loop ileostomy inserted. He subsequently developed a prolonged postoperative ileus that was managed with prokinetic medications, ileostomy catheterization, and external abdominal applications and remained hospitalized for 5 weeks.

In May 2013, the patient was readmitted for elective ileostomy reversal. Surgical revision with reanastomosis was necessary during the first postoperative night due to a perforation shortly proximal to the intact anastomosis. Given previous complications, a nasogastric tube was inserted postoperatively as a precaution and he received parenteral nutrition (Figure 2). Initial pain medication

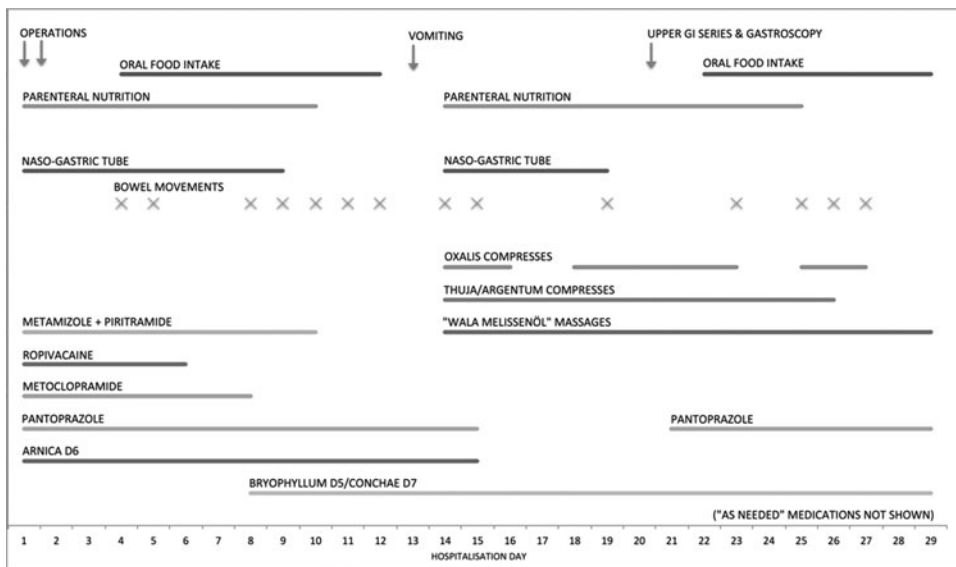


FIGURE 2. Timeline.

included intravenous metamizole, piritramide via a patient controlled analgesia pump, and ropivacaine via an epidural catheter. Metoclopramide was given as a prokinetic drug for the first 7 days. Antibiotic coverage with meropenem was given during the first 9 days. In addition, the patient received the homeopathic medications Arnica *planta tota* D6 and Bryophyllum D5/Conchae D7. Pain medications administered as needed for the remainder of the patient's stay in hospital were acetaminophen, ibuprofen, and metamizole.

The patient's symptoms improved slowly and steadily during the first postoperative week, with food intake after 2 days. The nasogastric tube was removed after 8 days. On postoperative day 13, however, he vomited twice and complained of abdominal pain; his abdomen was distended, consistent with an ileus.

Infection and obstruction were ruled out as cause for the ileus: He remained afebrile and daily laboratory parameters (C-reactive protein and full blood count) were normal except for mild thrombocytopenia. An upper gastrointestinal series showed slowed passage from stomach to duodenum and a narrowed caliber duodenum but no obstruction; a gastroscopy showed gastritis but no sign of duodenal stenosis. The patient was therefore considered to have a prolonged postoperative ileus.

A nasogastric tube was placed and parenteral nutrition was restarted. External abdominal anthroposophic applications were started, as follows: Each morning, he received an abdominal *Oxalis* compress, followed by a "Wala Melissenöl" massage;

in the evening, a *Thuja/Argentum* ointment compress was applied. Oxalis compresses were halted during weekends because of limited availability of nursing staff. Treatment with pantoprazole—a proton pump inhibitor—was restarted following the gastroscopy.

On at least one occasion, bowel sounds were audible without a stethoscope following the massage despite the fact that massages only involved light touch with circular movements. The patient showed gradual improvement over the next 10 days—allowing removal of the nasogastric tube and the oral intake of food—and increased bowel movements were noted (Figure 2). Prokinetic medications were not restarted during this ileus episode. He was discharged from hospital after 29 days.

### Patient perspective

Right after the abdominal applications I always felt better and had less pain. I also felt my intestines were a bit more active. I don't recall if the effect of the morning and evening applications was different.

### Informed consent

The patient provided written informed consent for publication of this report.

This case was reported according to the CARE guidelines.<sup>37</sup>

## DISCUSSION

We have described the use of compresses and massages typically used for postoperative ileus in

anthroposophic nursing and exemplified this through a case report of a man with prolonged postoperative ileus.

The patient was successfully managed with the placement of nasogastric tube, parenteral nutrition, and external nursing applications. The abdominal compresses and massages seemed to have improved well-being, reduced pain, and may have played a contributing role in the treatment course of this patient. It was possible to manage this episode of prolonged postoperative ileus without prokinetic drugs, with the patient only receiving metoclopramide in the initial postoperative days before the renewed ileus period. This is unusual and may have been possible because of the external anthroposophic applications. However, the clinical benefits of prokinetic drugs have yet to be clearly demonstrated, with convincing evidence available only for alvimopan to date, a drug that is not yet approved for use in Europe.<sup>38</sup>

This was a somewhat atypical presentation of a prolonged postoperative ileus because the ileus reoccurred after feeding and bowel movements had already begun. Laboratory, radiologic, and gastroscopy investigations ruled out a secondary ileus caused by sepsis or obstruction. A limitation of this case is that we cannot ascertain if the patient's treatment course was shortened by the nursing applications; a prospective comparative study would be needed to answer this question.

Potential benefits of the compresses and massages can stem from the substances used, as well from the manual therapy itself.<sup>39</sup> In addition, the light massage with "Wala Melissenöl" may act as positive parasympathetic stimulation (in this case, the approach used did not involve mechanical massage, which is also known to stimulate bowel motility).<sup>40</sup> Performing external applications, as described here, require additional nursing time but can be rewarding for patients and nurses and offer an additional tool in the management of prolonged postoperative ileus.

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