

THE NEGATIVE PRESSURE MASSAGE OF ABDOMEN (LPG® TECHNIQUE) DECREASES PAIN AND POST SURGERY ILEUS : RANDOMIZED PILOT STUDY

I Le Blanc Louvry, C Boulon, AM Leroi, P Denis, F Michot, P Tenière, P Ducrotté.

Group of Research on Digestive tract, Nutrition & Environment, Hospital Charles Nicolle, 76031 Rouen Cedex

Aim

The aim of the study was to determine the effect of a technique of sucking massage on pain and post surgery ileus after colectomy. The hypothesis was that the post surgery ileus could be the driving consequence of the visceral pain and that the cutaneous stimulation could disturb the sensitive nociceptive messages from visceral starting at the level of the posterior cornual marrow.

Method

After the randomization practiced before the surgery, 13 patients (59 ± 6 years) received an active massage on abdomen by the machine CM50® and 14 patients (64 ± 4 years) received a non-active massage (placebo group) which has been started the day after the colic resection. None patient showed complications after the surgery. The massage has been practiced during 15 minutes and has been repeated every day until the 7th day after the surgery. The stimulation has been practiced on a rhythmic way with an intensity and a frequency previously shown as efficient on muscular pain (on sportsmen) in the actively stimulated group; the placebo group has been inefficiently stimulated. The assessment parameters (visual analogical score VAS) of pain and gas occurring delay have been collected by an operator different from the one practicing the randomization and from the one delivering the massage.

Results

Both the types and the doses of the anaesthetic drugs (Diprivan, Fentanyl, Norcuron) and also the surgery duration (treated group : 175 ± 20 min – placebo group : 162 ± 17 min) were not different in the both groups. After the 2nd day post surgery (D2), the VAS of pain was weaker in the actively stimulated group than in the placebo group ($p < 0.01$) (cf. table). The delay of gas occurring was shorter in the actively stimulated group ($D1.9 \pm 0.2$ vs $D2.9 \pm 0.3$ - $p < 0.03$). No adverse effect from massage has been noticed.

Pain score	D1	D2	D3	D4	D5	D6	D7
Placebo group	7.5 ± 0.5	7.1 ± 0.3	5.4 ± 0.4	4.9 ± 0.4	3.5 ± 0.3	3.8 ± 0.3	3.1 ± 0.2
LPG group	6.9 ± 0.5	$5.2 \pm 0.4^*$	$3.9 \pm 0.3^*$	$3.2 \pm 0.3^*$	3.1 ± 0.2	$2.4 \pm 0.4^*$	$1.9 \pm 0.2^*$

Means \pm SG (*) $p < 0.01$: actively stimulated group vs placebo group

Conclusion

These preliminary results show that the sucking massage (Technique LPG) of the abdomen wall decreases the pain and the ileus duration after a surgery practiced on abdomen.